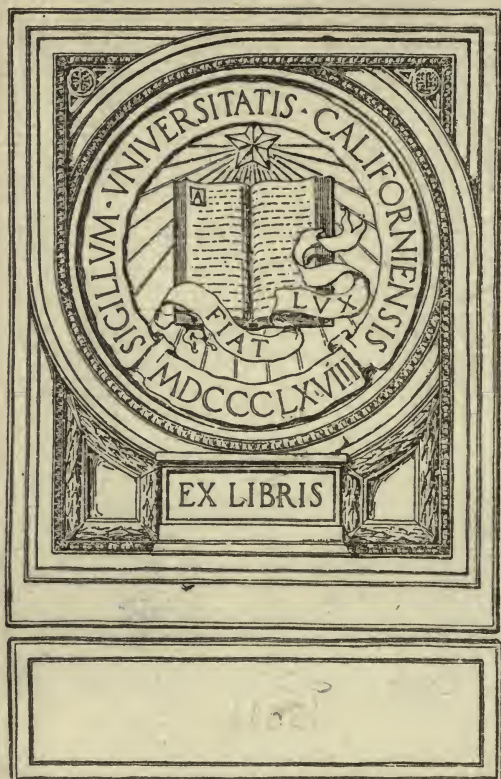
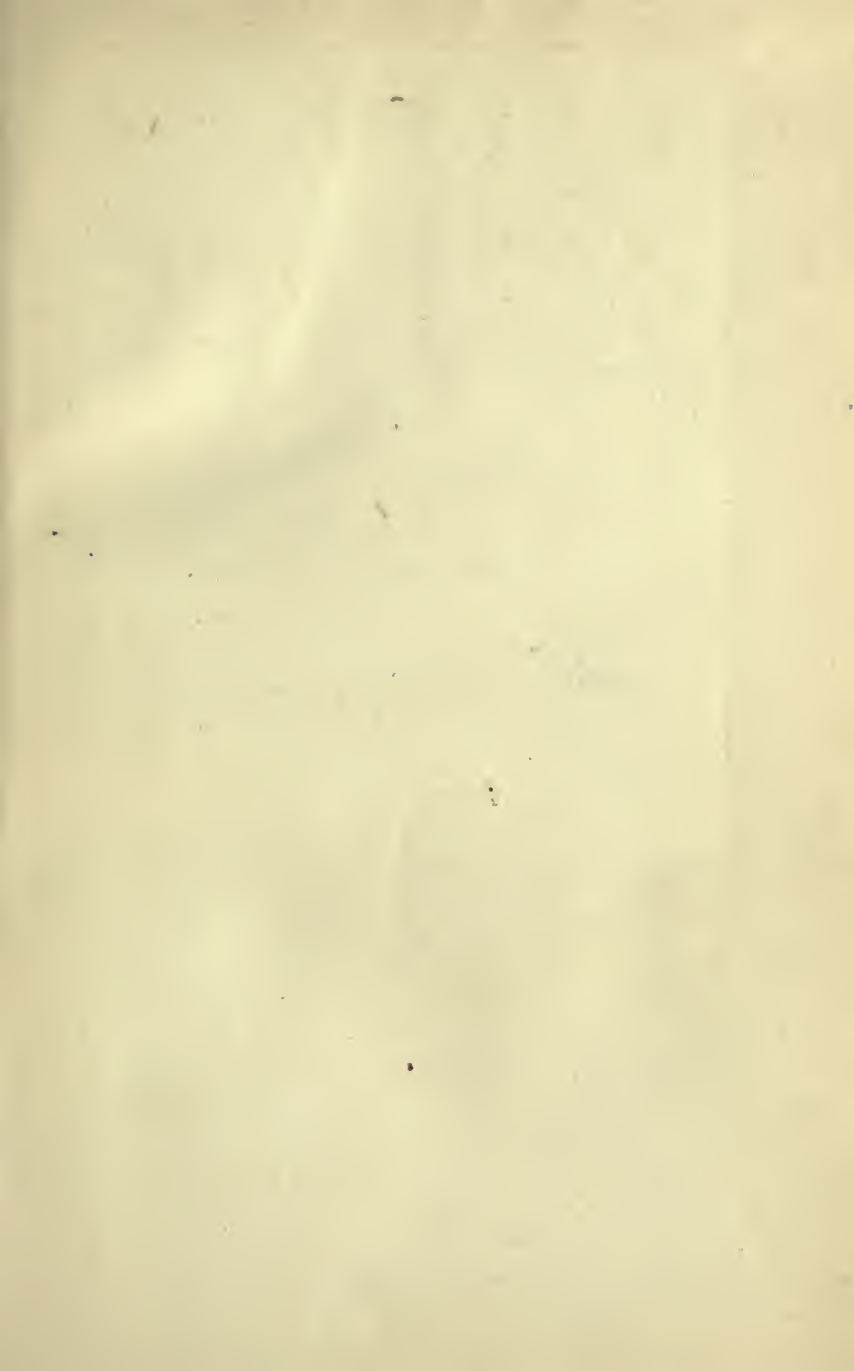



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BACKWARD CHILDREN .





THE REST HOUR.

ON THE CAMPUS OF THE UNIVERSITY OF PENNSYLVANIA JUST OUTSIDE THE PSYCHOLOGICAL LABORATORY IN COLLEGE HALL.

THE SPECIAL CLASS FOR BACKWARD CHILDREN

An Educational Experiment conducted for the Instruction of Teachers and Other Students of Child Welfare by the Psychological Laboratory and Clinic of the University of Pennsylvania

Reported by

LIGHTNER WITMER, Ph. D.

Professor of Psychology,
Director of the Psychological Laboratory and Clinic,
University of Pennsylvania,

THE PSYCHOLOGICAL CLINIC PRESS
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(Summer Session 1911)

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BACKWARD CHILDREN

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CHAPTER I.

MOTIVES AND AIMS.

LEIGHTNER WITMER.

This volume may appear to be making a great to-do about little or nothing.

It is all about eighteen backward children who were taught in a special class for six weeks during the summer of 1911, at the Psychological Laboratory and Clinic of the University of Pennsylvania.

These eighteen children were all of them more or less defective mentally and physically. Many of them had moral symptoms which aroused grave apprehension in the minds of those concerned for their future welfare and standing in society. Very few of them inspired any confidence in their ability to maintain themselves satisfactorily by their own exertions, or to marry and rear normal children.

Why then devote to them so much scientific care and training? Why all the exertions of the Psychological Clinic to study these children before they entered the special class? Why this sending of trained social workers into the home to confer with parents? Why obtain the opinions and advice of teachers and principals in the schools where these children had been drag-

ging along in their progress through the grades? Why call to our aid physicians, hospitals, medical and dental dispensaries, and why in some instances obtain the financial support necessary to provide home care, discipline, and proper nourishment?

If we think only of these eighteen children, the expenditure of time and money cannot be justified, unless our sympathy for individual cases of misery is so intense that every expenditure appears justifiable.

It is my belief that sympathy may be taken for granted as a compelling motive in philanthropic and social work. I need not, then, set before you the unhappy situation of children, who, through no fault of their own, are deprived of every child's right to a joyous and orthogenic childhood,—doomed, because of inefficiency, to spend their adult life either in dire poverty or as dependents upon the consideration and bounty of others.

I do not want you to consider the individual at all, and yet,—here is the paradox,—it is only through consideration of the individual that we can expect to understand the psychological factors which determine human progress. I mean that I do not ask your sympathy for these children as individuals. I know they will receive it without the asking. I do ask that in reading this volume you will allow the opinion to form in your mind that it is through the direction of

many sciences to the study of the individual that we shall finally be able to develop an educational system which will actually do what we now in this country only pretend we are doing, namely, give an adequate education to every child. The instruction of this special class, and this volume, which presents a report of many details of the work, deal with these eighteen children as specimens of childhood which you will find in every large city in this country, and in many small towns and villages.

In the first place these children presented mental and physical defects which required scientific investigation and scientific instruction to overcome or ameliorate. When these defects are excessive, the child is at such a disadvantage in comparison with his fellows that he may be designated as mentally defective. There are 150,000, perhaps 300,000, such children of school age in the United States. The same causes which may produce mentally defective children, will, when operating with less severity, produce children who are backward in their progress through the grades. There are in the United States 5,000,000 children who may properly be designated as backward. Every person interested in one or all of these 5,300,000 children should learn something of profit from the perusal of this volume.

It would seem a reasonable proposition that a cause

which in one child may produce or contribute to backwardness, may, in another child, act as a handicap, however slight. Children who outstrip most of their companions are in turn outstripped by others. Examine these entirely normal children with the same care with which we examine backward children; take the same precaution to remove every obstacle, and the children to whom we have devoted this scientific forethought will advance with much greater ease and rapidity.

Then there is the child of more than average ability; perhaps he may even have the making of a man of genius. Every scrap of brain power which the race possesses should be conserved. Our schools pay so little attention to children of exceptional ability that it is unfortunately these gifted children who derive the least profit from the public schools. I mean by this that their individual needs are less adequately met. The child at the head of his class may nevertheless be the most backward or undeveloped child in the class, if we consider what might have been done for him had psychology and education but devoted themselves to the development of his individual faculties.

You cannot be interested in any child, mentally defective, backward, normal, or a genius, without finding in this volume points of view and methods of treatment which may be of service.

A special class for backward children is not of greater interest to me than a special class for exceptionally gifted children. Indeed, I should much prefer to assemble a group of gifted children for the purpose of demonstrating how much more can be accomplished by scientific methods than is being accomplished in our public schools to-day. I will be frank with you and say that the only reason I do not do this is because I do not know how. I believe nobody knows how to-day. If we are going to learn how, we must make very many preliminary experiments, one step at a time, to reach our goal.

The first step toward the understanding and adequate training of normal and gifted children in the public schools is to understand the problem of individual training with backward and mentally defective children. This arises from the fact that the minds of these children are less complicated and move more slowly than the minds of normal or gifted children. We are therefore able to learn more about a defective child than about the mind of a normal child, and we shall acquire the necessary knowledge concerning normal children first through a better understanding of defective children.

This is why I would appeal to your intelligence rather than to your sympathy. I want you to see that the importance of this work is out of all

proportion to the importance of the children with whom we deal.

This volume, then, is a report of the methods and results of an educational experiment, general in its ultimate aim though specifically directed to backward children. Its greatest value will arise from the fact that it is a contribution to the body of psychological knowledge which should be possessed by every teacher, by every parent, and (when we consider that education is after all one of the greatest factors in social progress) by every social enthusiast, every clergyman, some lawyers and many physicians.

Every piece of work derives value from its setting. The publication of this volume fifty years ago would have been meaningless. To-day we hope that it will play a part in helping on a growing movement. The labors of many others in this and related fields will assist in making this work of ours available to society. This we may call the external relationship of our work.

There is also a group of internal relations, in effect an internal organization. If we had done nothing more than conduct a special class for backward children, we should have accomplished much less than I believe we have done. The actual teaching of the special class was an educational experiment, a sample of what special instruction should be, in a sense a model, which we hope may be of service to American

teachers; but this educational experiment was only a small part of a much larger experiment. The Psychological Clinic is investigating the mental, physical, and environmental causes of backwardness and defect. We conducted this class for the purpose of assisting us in this investigation. The problem primarily deals with the development of the human mind, and therefore falls within the province of psychology. I believe that the development of investigation in this direction can best be done, or at least part of it can best be done, by trained psychologists in connection with the laboratory resources which only our greater universities can afford. Special education, therefore, which implies an understanding of the individual, can best be fostered by a university department of psychology.

Many sciences to-day are taking on a social aspect,—are manifesting a social direction. Medicine has outstripped psychology in making the results of its research directly available to society. It is only the youth of the science which makes the social contributions of psychology less significant than those of medicine. The Psychological Clinic sends its social workers into the home, not only to discover what may assist us in our interpretation of the mental condition of the child, but also to educate the home, to make parents understand better the problems presented to them in their children. An experiment of this kind will be a halting

one unless the proper measures are taken to articulate the work directly with the social forces in the community, under which I include the homes and the schools, as well as with the many special agencies for the care of children and other classes in the community. In the conduct of our special class the Social Service Department maintained a contact with the home and the school, not only during the six weeks of the experiment, but for months before and after.

Another important feature of this internal organization is the relation of the special class to university instruction in psychology. Modern psychology is taught by the laboratory method. A special class is a kind of laboratory. If I had the means, I would have a special class of children in continuous operation as one of the most necessary bits of laboratory work, for the instruction of my students as well as for investigation. Modern psychology is a genetic science. We must therefore be prepared to study the mind in process of growth. We can best impress upon our students the truths of modern psychology if we ourselves are absorbed in working out problems of mental development.

But most important of all is the organization of this work for the teaching of psychology in the broad sense. In the last analysis one can have no interest in teaching psychology to students who are not intend-

ing to use it. The number who can become teachers of psychology in our universities, colleges and normal schools, is limited, but the number who can use psychology in the public schools, in social work and in the home is unlimited. We have therefore set ourselves the task of teaching a modern and useful psychology in a thoroughgoing way, through systematic courses, but nevertheless in a way which will reach the intelligence and the interests of those who must find the science directly serviceable in their life work. Of all classes in the community whom we desire to reach the teachers are the most important. It is probably fair to say that as a learned profession, education is now on a level with the other learned professions. It is none the less fair to say that in the coming years the relative importance of the profession of education will increase.

This volume, like the work which it reports, is the work of many hands. The general responsibility for the conduct of the experiment and for the collection of the data rested upon Dr. Holmes. Dr. Twitmyer gave valuable assistance in preparing the laboratory for the special class, in the purchase of material and in the taking of many photographs, from which those to appear in this volume have been selected. The special class was directly in charge of Miss Farrell, and to her we are indebted also for the report on the educational organization and the conduct of the class

contained in this volume, as well as for the very important chapter on the discussions with students in the observation class. Miss Farrell was ably assisted in her work by Miss Walsh and Mrs. Pfeiffer. Mr. Oscar E. Gerney, instructor in the University Gymnasium, taught the boys gymnastics and contributed a brief but illuminating report of their progress under his instruction.

The social service reports were prepared by Mrs. Bryant with the assistance of Miss McCall. We are also indebted to Dr. Lippert for some of the physical tests and for acting as medical inspector for the children in this class. To Dr. Ludlum and Dr. Corson-White we are indebted for serum and other tests. To the many physicians connected with dispensaries and hospitals in this city who have given generous assistance, we are under a heavy debt of gratitude.

CHAPTER II.

THE PURPOSE AND ORGANIZATION OF THE SPECIAL CLASS.

BY ARTHUR HOLMES.

Since the general awakening of interest in the modern science of psychology, the University of Pennsylvania, like most of the larger institutions of learning in this country, has taken part in developing a new type of psychology with new content, new methods and new purposes. Under the direction of Dr. Lightner Witmer the Psychological Laboratory here has also given a great deal of attention to the preparation of the teacher for more efficient professional work. As early as December, 1896, he outlined, in an address delivered before the American Psychological Association, a scheme of practical work in "clinical psychology" which included the investigation of the mental development of school children and the organization of a Psychological Clinic, offering an opportunity for observation and also giving practical training in a new profession, that of the psychological expert. In 1897, during the four weeks' course of the Summer School, Dr. Witmer was able to put the larger part of this plan into operation. The Psychological Clinic was organ-

ized and conducted daily and with it the first day class for backward children in Philadelphia under the instruction of a specially trained teacher. At the Clinic, children were presented suffering from defects of the sense organs, of memory, of attention and motor expression, and in the training school the children were taught throughout the session of the Summer School and received pedagogical treatment for the cure of defects of speech, of written language and motor expression.* The educational experiment was entirely successful both in the effect upon the children treated and in the value of the results to those interested professionally in the work.

On account of lack of funds, the special class was not again organized until 1907, when a group of backward and mentally defective children were gathered together during the Summer School period of that year and given special instruction in the rudiments of intellectual work and in manual training. In general the same methods were pursued as in 1897. The good results accomplished by this experiment led Dr. Witmer to repeat the class in the summer term of 1908. In 1909, no special educational work was attempted, but in 1910 a class with distinctively new features was organized and conducted. In order to reach a wider group of workers than the observers present at the

* See *THE PSYCHOLOGICAL CLINIC*, Vol. I, No. 1, Mar. 15, 1907, p. 5.

Summer School, a report of the work with this class was published in *THE PSYCHOLOGICAL CLINIC*, Vol. IV, No. 6, November 15, 1910, under the caption, "An Educational Experiment with Troublesome Adolescent Boys."

For the session of 1911 Dr. Witmer proposed the most highly organized special class yet attempted. Not only did he propose the organization, but worked out the general plan, anticipated many of the details, and secured the necessary financial support. In determining the kind of class that should be organized several objects were kept in mind which might be classified as philanthropic, social, and pedagogical.

Here, as in all the previous special classes, the good of the children was the first and chief consideration. To this end each child selected for the class was to be put into the very best physical condition possible before entrance into the class, so that he could profit fully by his experience. During the six weeks, he was to be under the most intelligent training and in the most appropriate environment that could be secured. His daily regimen was to be regulated both in the home and in the class. From nine in the morning until four in the afternoon he was to be placed under the direction of teachers specially fitted for their work and with appliances at hand sufficient for all his needs; and the rest of the day he was to be carefully watched at home.

If his home was not the best, arrangements were made to place him in a boarding house where his diet and bodily care could be supervised. As in former seasons the class was to be made up of exceptional children, but admission to it was not restricted to any one type. The mentally retarded and the precocious, the well-behaved and the morally delinquent were all represented, and as much improvement wrought in them as their natural endowments permitted. The project was philanthropic in that it considered the welfare of the individual.

The class was so organized as to furnish an opportunity for the scientific observation of results during six weeks of first-rate care and training. To demonstrate just how much could be done for a group of backward children would be valuable not only to those directly interested in clinical psychology, but as an object lesson it would interest also the child-welfare workers of the country. It was expected to draw attention to the necessity for systematic, all-round care for every child. To obtain results within so short a time as six weeks, not only must the daily environment of the children be made as nearly ideal as possible, but the children themselves must be made as physically and mentally fit as possible. In respect, therefore, to both results and methods, the work proposed was to be not only individually philanthropic, but scientifically and socially profitable.

The pedagogical purposes were so many, and so mingled with the social aims, that it is hard to separate them. The first consideration, of course, was for the teachers who gather from all parts of the country at the Summer School. To them the experiment would furnish a unique opportunity to observe a model class of exceptional children, belonging to all types, being trained according to the most advanced principles and methods, under special teachers chosen from the public school system and with the co-operation of several child-helping agencies of which the Psychological Clinic was the center. Great as would be the profit to the teachers, it was believed that the profit to the cause of education would be even greater. For, without any pretense of having reached perfection, this comprehensive organization could offer itself as a suggestion of what might well be copied wholly or in part in many cities where the exceptional child problem is acute.

Further, the experiment was designed to indicate on what financial and pedagogical scale the work in the special classes should be conducted in order to secure results commensurate with the need. The very best teacher who could be secured was to be put in charge, with at least two of her own assistants. While this force of three expert teachers was not at all necessary for the conduct of the class as a class, they were

needed in order to organize it thoroughly, to secure the equipment and to attend to the daily outside duties connected with the students of the Summer School in the observation class. In addition to these duties still others would devolve upon them in the hourly care of the children from nine in the morning until four in the afternoon, including the rest period and the hour of luncheon, which was served in the school rooms. The daily program, offering a great variety of activities, was sufficient to occupy fully the time of the three women in charge, though once such a class is in operation in a public school system, certain functions would naturally be assumed by the school-nurse or some other person, and the teaching staff could be reduced.

To show the justification for spending money on this work was a leading purpose of the experiment. The cost of conducting such a special class as this for so short a time under the conditions existing in the Psychological Laboratory is, of course, many times what it would be in a regular public school already equipped for the work. But the good results gained by this comparatively expensive experiment, it was hoped, would be so great that they would inspire more liberal expenditures in all other special classes.

Besides the appeal to be made to those particularly interested in the conduct of classes, an appeal was

also directed to that wider body of people who support the schools,—the public who pay the taxes. We still hope that the results attained will be of such general interest that the publication will reach a larger contingency than the professional teacher or school administrator. It did not appear to us unreasonable to suppose that the ordinary man or woman, and especially the one who has a backward or mentally defective child in the home,—and in America there are 150,000 to 300,000 of the latter and about 5,000,000 of the former,—would see the justification of making far more extensive and intensive preparations for dealing with the immense problem of the backward child. The provision is so inadequate for present needs and so far from meeting the rapidly increasing demands, that undoubtedly for some years to come a large number of high grade mental defectives must be taken care of in the public schools. This will necessitate the most intensive pedagogical methods and will demand teachers specially trained for the work and supported with equipment and methods of teaching similar to those illustrated during the summer in our special class. Therefore, in addition to an educational demonstration, we hope to make a strong philanthropic appeal for this particular class of children.

Finally, another purpose loomed large in the minds of the promoters of this special effort. It was an objec-

tive, not so concrete as any of the preceding ones named, and yet in its future effects probably the most far-reaching and important of all. By means of this concrete illustration we intended to demonstrate the need of a psychological clinic in any urban school system where special classes are conducted. To show clearly this vital necessity, all the children of the group were to be carefully examined at the Psychological Clinic, their physical defects as far as possible removed by medical and surgical treatment, and the nature of their pedagogical training prescribed by a mental examination and classification. Everything possible was to be done in in order to present them to the teachers of the special class in the very best condition for immediate improvement. As a result of this preparation far better results would be secured in the six weeks of intensive education than could have possibly been obtained had the children been placed indiscriminately in the hands of their teachers. While the experiment, in this one particular, was to be performed under extraordinarily favorable conditions, in that the special class was to be held in the same building as the Psychological Clinic, nevertheless, it would clearly demonstrate the possibility of such co-operation between any psychological clinic and any school system in the same city. This accidental propinquity ought not to affect general conclusions concerning the efficacy of such a federation of activities.

As a further demonstration of the value of this same co-operation, it might be well to mention that several minor experiments have been performed with actual special classes in public schools and the results of this work will probably appear later in *THE PSYCHOLOGICAL CLINIC*.

To sum up, this class was to be the focal point of all experience with special classes from the first in 1897, joined with the experience gained in the Psychological Clinic from 1896, augmented and systematized by the courses of instruction and the methods of original research worked out in the Psychological Laboratory under Dr. Witmer's direction during the last two decades. All this experience was utilized for the supreme purpose of organizing and conducting a model class under ideal conditions for the purpose of benefiting first the children themselves, secondly, all the welfare workers with children, and thirdly, the teachers of the country.

With such an ideal in mind it was obligatory for us to secure a teacher of the necessary ability to put into practical operation the underlying principles of the experiment. Knowing the importance of the teacher above every other factor, Dr. Witmer spent much time and consideration before choosing the person to be intrusted with this most important piece of demonstrative and intensive training. Finally he determined

to ask Miss Elizabeth E. Farrell, of New York City, with such assistants as she might choose to undertake the work. Fortunately she was able to accept the invitation and the results abundantly prove that the selection made was as nearly ideal as possible.

Miss Farrell is Supervisor of Ungraded Classes in New York City. By preparation and training she has been particularly fitted for this work. A graduate of New York University in 1905, with postgraduate work both here and abroad in psychology and psychiatry, she has a knowledge of mental development and mental defect and disease which is essential to the intelligent supervision of the new type of public school. As the representative of the New York City Board of Education she visited special schools in England and France in 1903, and again in a similar capacity in 1908 she investigated the auxiliary schools of Germany and the special schools of Belgium.

In addition to all her other qualifications of preparation and personality, Miss Farrell brought to her work at the Summer School the most unusual equipment of splendid executive and administrative ability, coupled with the power of addressing an audience clearly and forcibly. As a result she not only made a most efficient organization of the special class, but she was able also by her practical talks to the students in the observation class to set forth clearly the underlying

motives of every stage of her work and every activity of the children. She dwelt constantly upon the psychology of the children with such force and vividness, that she set the teachers to thinking of their school-room problems in a new and stimulating way. Such superficialities as material equipment and methods of class teaching she passed over as being merely incidental means to an end, depending upon place and circumstances, and made it clear that if any teacher of normal ingenuity seized upon the real thing, namely, the development of the individual child, such things as methods and equipment would right themselves.

Miss Farrell brought with her two of her assistants, Mrs. Margaret Pfeiffer and Miss Elizabeth A. Walsh. Mrs. Pfeiffer had special charge of the manual training. She is a teacher of an ungraded class in Brooklyn, New York. Her academic preparation was received chiefly at the University of New York, where she was a student in psycho-physiology in 1906 and 1907. During the latter year she was a special student of articulation under Professor Steigner, of the People's Institute of New York City. In 1908-09 she devoted a year to specializing in manual work for defective children at the Brooklyn Institute of Arts and Science.

Mrs. Pfeiffer's theory of manual training and its place in the education of defective children was quite in accord with the general ideas of Miss Farrell. The

material product of a child's efforts in no wise measured her work with that child. Very little emphasis, in fact, was placed upon what is usually considered fundamental and essential in manual training. The usual methods, of course, were pursued; lines were marked out upon the wood, and the child was expected to follow them as nearly as possible, but when he had done what he was told, the work performed was not the straight edge he had made, but his new ability to receive a command and carry it out. If in time his lines became more nearly straight, his planed surfaces more nearly smooth, these improvements were not taken as the whole effect of his training, but were considered merely as indicative of the fact that the child himself was developing. In order, therefore, to secure this development, and to gauge it by tangible results, each child was permitted to follow some line of work which he enjoyed and in which he was interested. His first attempt to make some definite thing, no matter how crude or clumsy it was, was nailed upon the exhibition screen with the work of the rest of the children. He was urged to take delight in the fact that he had completed something, that he had made progress, that his efforts had met with some measure of success. The emphasis, therefore, upon results was always brought back to terms of the individual development of the child, and not to mere material and mechanical products.

To Miss Elizabeth Walsh, the other assistant, was delegated the conduct of the daily classes in their kindergarten work. Miss Walsh, like her co-workers, was well fitted for her task by long preparation and experience. She began her career as a teacher in the House of Refuge in New York City, and from the first continued to give her entire attention to special classes of children. She has had charge of special classes at Binghamton, New York, and at present has charge of an ungraded class in New York City. She spent one term in the study of handwork for defective children at the Chautauqua Summer School, and in order to fit herself more completely for the real problems of teaching backward children, she became a student in psychology at Columbia University. Later she specialized in sloyd work at the College of the City of New York, and in articulation at the People's Institute, under Professor Steigner.

Miss Walsh, no less than Miss Farrell and Mrs. Pfeiffer, realizes that in order to make a success of the teacher's profession she must never cease preparing for it. While the facts mentioned above indicate particular phases of her experience, her preparation has been continuous. During the summer session an important task was to reduce the chaotic and inco-ordinate movements of the children to some order and system. This she did by appealing to their instinctive love of

rhythm, a tendency in human nature which expresses itself in the wave-like changes of attention, in the beat of the heart, in the drum-paced march of the soldier, or the songs of group laborers. To supply rhythm of effort and attention where it was congenitally lacking was the task of Miss Walsh, and for this purpose she used the piano, songs illustrated by gestures, folk-dancing, and similar devices, until the pleasure of keeping time brought about the desired co-ordination. Necessary as all these items of equipment are, nevertheless, it remains true that the success of Miss Farrell and her assistants depended ultimately upon their fundamental psychological viewpoint. They looked upon their work as a part of a consistent whole; they recognized clearly that to deal intelligently with the children in their hands it was necessary to make a psychological study of each individual child, and they were quite ready to receive the diagnosis of each child's mentality already made by the Psychological Clinic. Their teaching, therefore, was not teaching in the ordinary accepted sense of the term, but it was in reality and essentially an individual treatment of a pathological case, and their genius showed itself in their ability to apply psychological principles in the ordinary class room.

From this last remark it will be seen how closely the Psychological Clinic was joined to this whole enter-

prise. In the first place the selection of the children depended upon the past work of the Clinic, for all of them had passed through the regular channels of the Clinic during recent years. Consequently, when the class was to be organized, it was a comparatively simple and easy matter to go to the records and select types of children who would best illustrate the kind of work needed in a special class. At the same time these records furnished a complete history of the child's condition, at least four reports being on file in each instance. When first received at the Psychological Clinic each child with its parents or guardians underwent an oral examination concerning his own personal life history and his family history back to his grandparents on both sides. After it was completed a preliminary but comprehensive physical examination followed which included, first, careful anthropometric measurements; and secondly, a medical examination by a regular practitioner, in order to discover the two classes of physical defects bearing upon his mentality, namely, removable physical defects and congenital defects or stigmata. If the former were present, the Social Service Department immediately took the child in hand and saw to it that he visited specialists who made a thorough diagnosis of his condition and gave the necessary surgical or medical relief. Nor did the social service work stop there. Visits were made to the home of

the child and a full report rendered concerning his environment, the social status of his family, the obvious training and treatment which he received from his parents, the kind of food he ate, the ventilation of the house, his opportunity for play, the probable income of the family, and any other items that might bear upon his condition.

Undoubtedly the ideal special class teacher could produce wonderful results with her pupils if given nothing but an empty room, and the mechanical teacher would fail miserably of real results in an ideally equipped school room, furnished with all the paraphernalia that mind could conceive or fancy desire. This fact will be noted in studying the methods of our summer class described further on and illustrated in the photographs of manual work done; for the chief piece of carpentry done by the pupils consisted of building a house out of an ordinary packing box. Nevertheless adequate rooms and their equipment are of no mean importance.

The first requisite for conducting a special class is a location. In the modern public school building this presents no difficulty. Large, airy, well-lighted and well-ventilated rooms are to be had, furnished with all the usual equipment of the school room. With us this matter was one of some difficulty and demanded some preparation. Three rooms in the west wing of College

Hall, directly above and communicating with the Psychological Laboratory, were secured and prepared for the reception of the class. While these rooms were not ideal they were not unsuited for our purpose. Being well above ground, they were airy, and having many large, high windows they were well-lighted and well ventilated for summer work. The windows were not located so as to give the best illumination, but this defect was largely overcome by the manner of seating the children. The location of the rooms above and below the class rooms, whose ceilings and floors were not deadened, rendered them somewhat inconvenient for any vigorous exercise, marching or dancing, and this same objection applied to the daily use of the piano.

Another inconvenience worth noting was the absence of lavatories and toilet rooms easily accessible from the class rooms. For washing before meals, cleaning their teeth and such other necessary requirements, the boys were compelled to go down stairs to a floor below. Neither were any closets handy for putting away hats, umbrellas, or other articles of dress, or for storing kindergarten tools, utensils, dishes, material for working, and the inevitable odds and ends that accumulate about a school room of this kind. It was necessary to bring in some book cases and china closets, and to store the other things wherever they were least in the road.

After the rooms had been selected they were prepared for the reception of the scholars by a thorough scrubbing. Floors, windows, walls and all wood work were cleaned and several coats of varnish spread upon the floors. This made it possible to mop up the floors every evening after the day's session. Then the furnishings and equipment were brought in. First, platforms of the right height were constructed of ordinary pine planks and placed in position under each black-board so that the children could write on the board without inconvenience. The large items of equipment were the player-piano, the sand board, the work benches, tools, lumber, raffia, basketry materials, clay, dishes for giving the children their lunches, and then all the smaller articles of kindergarten equipment like paper, pencils, rulers, books, crayons, etc. The number and kinds of these articles can be seen from the attached itemized list.

SUPPLIES AND MATERIALS FOR THE SPECIAL CLASS.

SUMMER SESSION, 1911.

Equipment.

- 10 ordinary pine-top kitchen tables with drawers,
36" x 23". \$1.95 each.
- 20 children's chairs, 12" and 14" leg. 80 cts; \$8.50
per doz.

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3 double work benches, 51" x 22". \$22.00 (5 drawers).

1 sand tray.

1 couch or cot. \$1.50 up.

2 teacher's desks. No. 26,875, 42" x 30". \$11.50 each with back panel and tall top. No. 26,801, 42" x 30". \$8.00 each, no back panel and tall top.

Plants for room decoration.

20 steamer chairs. \$1.50 and \$2.25 with rest for feet; \$1.25 and \$2.00 without foot rest.

20 3½ ft. wands. 10 cts. each.

15 pairs of 1 lb. dumb-bells, 45 cts. per pair.

15 pairs of ¾ lb. Indian clubs. 35 cts. pair.

1 Pianola piano.

½ doz. bean-bags.

½ ream oaktag paper, 9 × 14.

1 large jar library paste.

1 medium bottle glue.

½ doz. lead pencils, medium.

2 doz. lead pencils, hard.

Supplies.

Tools.

1 brace. \$1.25 to \$2.50.

½ doz. bits. $\frac{6}{32}$ (30 cts.), $\frac{1}{8}$ (30 cts.), $\frac{3}{8}$ (35 cts.), $\frac{1}{2}$ (35 cts.), $\frac{3}{4}$ (45 cts.).

- 2 fret saws. 25 cts.
- 6 doz. blades. 15 cts. a doz.
- 2 varnish brushes (small).
- 3 chisels. $\frac{1}{4}$ in. 45 cts.; $\frac{1}{2}$ in. 45 cts.; 1 in. 75 cts.
- Brads. $\frac{3}{4}$ No. 18, 12 cts. a lb.; 1 No. 16, 12 cts. a lb.
- Nails, $1\frac{3}{4}$ No. 12, 8 cts. a lb.
- Sandpaper, No. 1. 1 ct. a sheet.
- 4 planes, smoothing. \$1.35.
- 1 pliers, square nose. 45 cts.
- 2 steel rulers. About 75 cts.
- 4 10-in. back saws. \$1.35.
- 1 cross-cut. \$1.50 to \$2.00.
- 1 rip-saw. \$2.25.
- 1 screw driver, medium. 30 cts.
- Screws. Flat, 1 in. No. 6, 30 cts. gross; $1\frac{1}{2}$ in.
No. 10, 35 cts. gross.
- 4 files, flat, 10 in. 25 cts. each.
- 1 mallet, round.
- 1 hammer, claw. 60 cts.
- 6 hammers, tack. 45 cts.
- 4 try squares, 6 in. 30 cts.
- 1 oil stone. 25 cts.
- $\frac{1}{2}$ gal. turpentine.
- 1 can stain, oil walnut. 90 cts. a qt.
- 25 dowels.
- Cane for chairs.
- 1 lb. fine-fine. 75 cts. bundle.

ORGANIZATION.

31

1 lb. fine. 75 cts. bundle.

1 lb. medium. 75 cts. bundle.

4 lbs. raffia. Light brown, green. 55 cts. lb.; old
blue, natural 25 cts.

1 lb. reed 1. \$1.25 lb.

1 lb. reed 2. 95 cts. lb.

1 lb. reed 3. 75 cts. lb.

1 lb. reed 5. 55 cts. lb.

1½ doz. scissors, sharp pointed, 5 in. \$2.25 doz.

Paper:

12 pkgs. Prang's colored paper, 4 x 4; 20 x 25.
5 cts. sheet, 50 cts. a doz.

Clay:

50 lbs. clay. 25 cts. a brick (5 lbs.).

1 jar for clay.

Chalk:

1 box white chalk. 35 cts. a gross.

1 box colored chalk. 10 cts.

Paints:

18 boxes of water colors. 25 cts. small; 65 cts.
large.

2 doz. water color brushes. 10 cts. each; \$1.00
doz.; No. 3 brush, medium.

2 doz. box grease crayons. 50 cts. doz.

Wood:

50 bass wood blanks, $\frac{1}{4}$ in.

25 ft. joists, white pine, 1¾ in.

- 2 boards, $\frac{7}{8}$ white pine, clear, dressed.
- 2 boards, $\frac{5}{8}$ white wood, clear, dressed.
- 2 boards, $\frac{1}{2}$ white wood, clear, dressed.
- 15 ft. $\frac{7}{8}$ joists, white pine.
- 10 ft. pine strips, white, $\frac{7}{8}$ in. square, dressed four sides.



I. OPENING SCHOOL.

BIBLE READING FOLLOWED BY TALK ON SOME TOPIC SELECTED FOR THE DAY.



II. EXPRESSIVE WORK.

WRITING AT THE BLACKBOARD, LAYING SPLINTS AND MODELLING IN CLAY.



III. EXPRESSIVE WORK IN DETAIL.
GIVING BACK THE TALK AT THE OPENING EXERCISES.



IV. MARCHING DRILL.
TO LINE UP AS SHOWN IN THE ILLUSTRATION REQUIRED FOUR OR FIVE WEEKS' WORK.



V. CORRECTIVE GYMNASTICS.
TEACHING THE CHILDREN TO PICK UP THEIR FEET IN WALKING.



VI. CHINNING THE HORIZONTAL BAR.
A SATISFACTORY AND INEXPENSIVE GYMNASIUM.



VII. ATTENTION.

CONTROL OF PASSIVE ATTENTION THROUGH HOLDING A POSITION.



VIII. GRACE BEFORE MEAT.
THE ARRANGEMENT OF THE SCHOOL ROOM FURNITURE FOR THE MID-DAY MEAL.



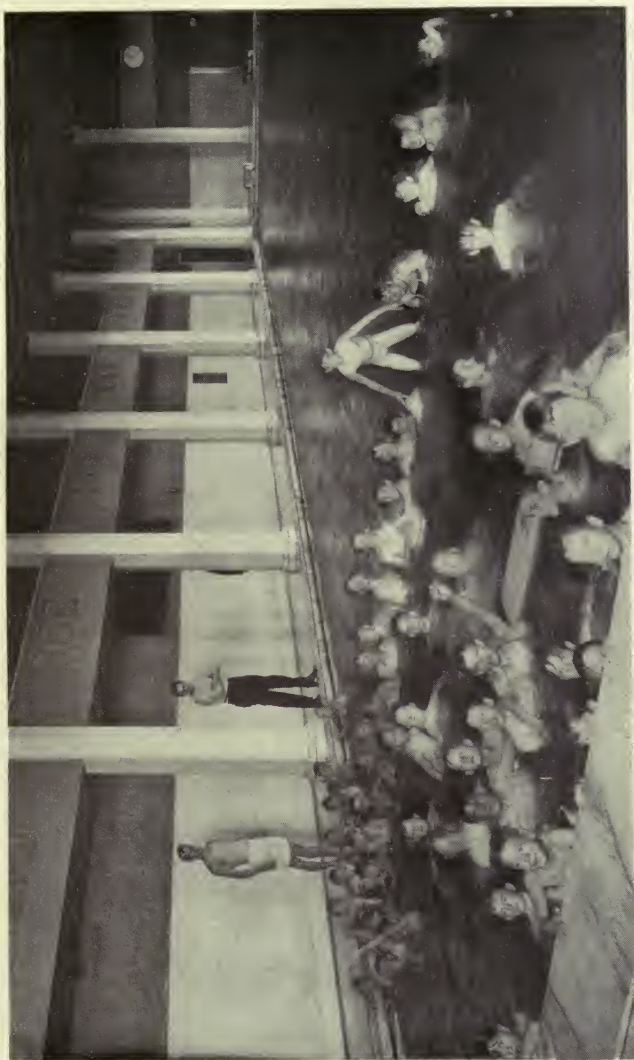
IX. THE REST HOUR.

ON RAINY DAYS THE CHILDREN WERE REQUIRED TO REST INDOORS.



X. IN THE UNIVERSITY GYMNASIUM.

MOST OF THE BOYS WERE ABLE TO TAKE PART IN THE GYMNASIUM DRILL.



XI. THE SWIMMING POOL.
SOME OF THE BOYS LEARNED TO SWIM AND DIVE.



XII. FOLK DANCING.
GIVEN TO THE YOUNGER AND LESS EXPERT CHILDREN.



XIII. THE STUDY HOUR.

REPRODUCING IN SAND AND THROUGH OTHER HAND WORK SOMETHING CONNECTED WITH THE CENTRAL THOUGHT OF
THE DAY'S WORK.



XIV THE HOME BUILDERS.

EACH CHILD BROUGHT A BOX AND OUT OF IT CONSTRUCTED A HOUSE ACCORDING TO THE DICTATES OF HIS OWN FANCY.



XV. HAND WORK.

NINE DIFFERENT KINDS OF HAND WORK ARE SHOWN IN THE ILLUSTRATION.



XVI. A LESSON IN ARITHMETIC.
THE GAME OF BEAN BAG IS EMPLOYED TO TEACH NUMBER.



XVII. ANOTHER FORM OF THE NUMBER GAME.
THE CHILD LEARNS ALSO CO-ORDINATION AND HOW TO PLAY.



XVIII. LINEAR MEASURE.
NUMBER WORK WITH THE DEFINITE UNIT.



XIX. AREAS.

NUMBER WORK WITH THE DEFINITE UNIT CONTINUED.



XX. THE FIRST NUMBER LESSON.
THE INDEFINITE UNIT TAUGHT THROUGH LIQUID AND LINEAR MEASUREMENT.

CHAPTER III.

THE CHILDREN OF THE SPECIAL CLASS.

BY ARTHUR HOLMES.

The Special Class of 1911 was composed of eighteen children. A normal boy, the brother of a mental defective, attended the class regularly, but was not regarded as belonging to it. The table on the next following pages briefly summarizes the physical and mental status of the eighteen children composing the class. There were twelve boys and six girls, ranging in age from eight to thirteen years. The grading of the children as reported from the public schools was as follows: two were in the kindergarten, four were first grade pupils, three second grade, and six third grade; while three were ungraded because of mental incapacity. The two youngest were in the kindergarten, the oldest was not graded because she was of a mental capacity too low to reach even the first grade. The class, in brief, was not peculiar in its make-up, but possessed the usual idiosyncrasies of the special classes met with in the public schools.

The weight of the children ranged from 42.7 kg. (93.9 lbs.) to 21 kg. (46.2 lbs.) with an average of 27.6 kg. (60.7 lbs.). The heaviest was the tallest girl in

TABLE I.—PHYSIO-PSYCHOLOGICAL STATUS OF

No.	Name.	Age at last birthday.	Height in cm.
1.	A., Giovanni*.....	9	125.7
2.	B., Wilbur.....	10	128.8
3.	B., Henry.....	10	129.2
4.	B., Gertrude.....	13	139.1
5.	B., Richmond.....	10	135.5
6.	C., Susan.....	9	124
7.	C., Julia.....	11	135
8.	C., Morgan.....	11	137
9.	C., Flora.....	13	156.7
10.	D., Agnes.....	10	127.7
11.	F., Russell.....	9	123.8
12.	H., Ernest.....	9	135
13.	H., Samuel.....	9	125.7
14.	L., Abraham.....	8	115
15.	S., Clara.....	8	120.5
16.	S., Robert.....	11	139.7
17.	S., George.....	8	132.2
18.	Z., Oswald.....	11	118.4

* Fictitious names.

CHILDREN OF THE SPECIAL CLASS 35

EACH CHILD IN SPECIAL CLASS, JULY 5, 1911.

Weight in kg.	Public School Grade Reported.	Mental Diagnosis.
25.9	First	Mentally normal. Pedagogically retarded on account of neglect. Morally delinquent.
26	Second	Mentally retarded; morally delinquent. Speech defect. Educable.
25.4	First	Mental defective.
36.7	Third	Normal mentality, pedagogically retarded.
30	First	Mental defective. Educable. Speech defect.
21.3	Second	Normal, backward through neglect.
30.8	Third	Mental defective, high grade, educable.
29.3	Second	Mental defective, with epileptic fits.
42.7	No grade	Mental defective, trainable.
30.8	First	Mental defective, educable to some degree.
22	No grade	Mental defective; trainable.
29.4	Third	Normal mentality.
27.3	Third	Mental defective, educable.
21	Kindergarten	Mental defective, educable to a small degree.
23.7	Kindergarten	Normal mental capacity but retarded by partial deafness.
31.8	Third	Normal mentally, speech defect. Stammerer.
21	Third	Moral delinquent.
23	No grade	Normal mentality, a hearing mute.

the class and one of the oldest. In general, the chronological ages were fairly well correlated with the height and weight of the pupils, except in the case of two boys, M. C., eleven years old, measuring 137 cm. and weighing only 29.3 kg., and G. S., a boy nine years old, the lightest in the class, showing most alarming signs of malnutrition, measuring 132.2 cm. and weighing only 21 kg.

The psycho-clinical diagnoses placed the general average of mental capacities fairly high. This quality, it must be remembered, must be sharply distinguished from the intellectual attainments indicated by school gradings. The former is a fixed quality determined from present mental potentialities and, if the diagnosis were correct, would not change in the six weeks, or in a lifetime. The intellectual attainments, on the other hand, were variable, and were expected to be changed by the class instruction. Gauged by mental capacities, nine were normal, but retarded in intellectual acquirements and mental development by physical defects; six were mental defectives of varying grade, but all educable to some degree in the rudiments of reading, writing and arithmetic, and highly trainable; two were not educable, though trainable in manual arts; one was afflicted with epileptic fits, and two added moral delinquency of varying degrees to their mental aberrations.

CHILDREN OF THE SPECIAL CLASS. 37

Still one more factor of great importance in the care of these children remains to be considered. That was the home conditions under which they lived,—comprising their food, drink, sleeping accommodations, bathing facilities, and last, but by no means least, the amount of intelligent supervision and co-operation to be obtained from their parents or caretakers. The children are divided into two groups: those who lived in their own homes and those who lived in the homes of caretakers. The children's own homes, from which they came daily in the morning and returned at night, represent different degrees of poverty or comfort as follows.

In the first class were the good homes, that is, those governed by intelligent parents, who maintained a fair oversight over their children, furnished them with enough to eat and drink and a quiet place to sleep. In such homes co-operation with all our efforts was heartily given and, as a rule, we had simply to make suggestions about the children's treatment and they were carried out. To such homes belong eight of the children in the class: W. B., H. B., R. B., J. C., M. C., F. C., E. H. and R. S.

In the second class were the homes not so comfortable yet not abjectly poor or destitute. Here the parents were neglectful and conditions of ignorance prevailed which militated against the best results of the class

training. However, with special attention and constant supervision we obtained some co-operation from even these places of abode for such of the children as R. F. and A. L.

The third grade, or very poor homes, were those usually found in the foreign quarters of the city where the parents are densely ignorant and incapable of giving adequate oversight to the children. They may be well-meaning people just capable of coping with their normal, easily managed children, but utterly at a loss to deal with the unusual situation presented by a child needing special attention. To such homes belong S. H. and G. A. In the case of S. H. much of the bad influence of his own home was counteracted by the fact that he spent a great deal of his time at a local settlement called the Young Women's Union. There he was in the habit of going daily for a bath in the summer, and in winter practically all of his waking hours except the time spent in school were passed under its good influences.

The second group of children in the class were those who were removed from their homes because they could not be trained while living there, either owing to the extreme poverty of the parents or to other disability in providing for their children. In these cases the children were placed with special caretakers, who furnished them with well-cooked, nourishing food,

ample bathing and recreation facilities and constant supervision by a responsible grown person. Here the care and training, though not the most expert, was far better than that found in the average home. During the summer six children lived with caretakers,—G. B., A. D., C. S., M. C., G. S. and O. Z.

So important was the part played in the experiment by these caretaking homes that it is of interest to describe a typical one in which the four last named children lived. This particular household was presided over by a middle aged woman who has had a great deal of practical experience in the care of children. She took immediate charge of the children, prepared their breakfast and supper daily, brought them to school and took them home and gave them all other necessary physical care. The household management, the kind of food the children ate, their bathing and sleeping accommodations, general habits and medical care were under the direct supervision of the social service department of the Clinic.

The house was a two-story, nine-roomed dwelling in a quiet block of residences, open on three sides, with a clear sweep of air day and night, summer and winter. On the floors were no carpets or rugs and all dust-catching draperies and ornaments were eliminated. Running water and a well-equipped bath room, where the children were bathed at least every other night

and sometimes oftener, added to their cleanliness and comfort during the hot weather.

On the first floor there was a square hall with a staircase, front room and dining room leading out of it. The kitchen opened from the dining room and into the pantry by door and window, and the pantry opened into the back yard. The yard, though small, had grass and bushes of its own and gave a good outlook over grassy spots in the rear of the house. Here the children spent most of their time when they were at home and not employed in the house. Upstairs were four bedrooms and a bath room. Two of the bedrooms had three windows, one two, and the fourth one window. All had two doors always left open, to give a constant current of air throughout the house.

The routine of the children's lives was regulated as carefully as possible. At six o'clock they rose, made their beds, set their rooms in order and dressed themselves under the direction of the matron. At seven they had breakfast, consisting of bread and milk and some cereal. Then they set out for the special class, arriving there at a quarter before nine. After seven hours of instruction, lunch and recreation, they were taken home again.

After school they had various household duties to perform. The girls were taught housework of some sort like sweeping, dusting, scrubbing, setting the table

and washing dishes, and cooking whenever their age would permit. When unoccupied they played out of doors, usually in the back yard, or the older girls were sometimes sent on errands. All the children were put to bed at eight o'clock.

A second-grade caretaking home corresponded as nearly to the one described as the decreased rate of board permitted. The children paid three dollars instead of five, which made a very real difference in the kind of provision made. Here the children received enough to eat, had a quiet place to sleep and were given constant oversight. The woman in charge was kind and patient, and the children never suffered from neglect or brutal treatment. Specific directions from the Clinic as to their care were carefully carried out, and without doubt such a home, though not, of course, ideal, was nevertheless the best procurable for the money available for some of the children, and infinitely better than their own wretched abodes,—to be called “homes” only by the barest courtesy.

Such was the psychological and sociological condition of the class as a whole. It was a typical special class,—typical in its variety of intellectual, moral and social gradations and therefore eminently worthy of the closest study by teachers and welfare workers. The mental, physical, moral and social status of each child, on entering the special class, will appear from an

examination of the following "clinic reports,"—prepared from the clinic records for the information and guidance of the teachers of the Special Class.

THE CLINIC REPORTS.

1. *Giovanni Arnetti*,* a boy nine years old, was first brought to the Clinic on March 16, 1911, by a Clinic social worker. He was sent together with his two brothers by the principal of his school because of backwardness and bad conduct.

The personal history of this boy began well. He had never been seriously ill and suffered no falls or injuries. He started to school when he was six years old and at the time of his visit to the Clinic had been placed in a special class for incorrigibles. His teacher thought that he was just bright enough to be bad, and stated it as her opinion that nothing would do him any good. According to her judgment, then, he was a moral degenerate, or a case of incurable badness.

In the family history there was nothing to substantiate this conjecture. The father is well and works daily at stone cutting for his living. He has had one slight illness, but nothing serious. According to the wife's report he drinks some wine and beer, but not to

*The names are fictitious, and a few other changes have been made to prevent identification.

excess. The mother of the boy is not strong. She was twenty years of age when this child was born.

The paternal grandmother is still living and well, although she has more than outlived her allotted time of three score years and ten. The father's father's brother,—the boy's paternal great-uncle,—went insane and was placed in a sanitarium, on account of a fright from a temporary imprisonment by some men who wished to rob him. The mother's father is still living and well, and her mother died of tuberculosis at a mature age leaving a family of three children. No mental abnormalities appear on the mother's side of the family. The immediate family of this boy consists of father and mother and five children out of six, the youngest having died when five months old, from bronchitis.

The appearance of this boy is not prepossessing, but this first impression is modified after a closer acquaintance. He is normal in weight and height for his age, though he appears small. His height is 125.7 centimeters and weight is 25.9 kilograms. A marked internal strabismus of the left eye strikes one immediately, though he wears glasses. This eye defect is congenital, inherited from the mother and shared by all the other children.

His hair though singularly soft to touch stands up on end. His posture is fairly good, because his

muscles are firm and his movements show good co-ordination. His skull is inclined to be narrow in the frontal region with prominent bosses on the frontal bone. The girth of the head is 20.3 inches; the biparietal length 5.6 inches; occipito-frontal 7.1 inches; occipito-mental 8.5 inches. At the time of the examination there were dark rings under the boy's eyes and he looked tired and worn, as if lacking sufficient sleep. His nose was broad at the bridge. This broadening, in conjunction with the short upper lip, mouth breathing, and round shoulders, suggested the presence of an adenoid growth. His heart was normal in size with a slight accentuation on the second beat which was rather marked at the aortic areas. The glands in the neck at the angle of each jaw were somewhat swollen. The lungs were normal. He was advised to go to the nose and throat, eye, ear and dental clinics.

On May 17th he was taken to the Pennsylvania Hospital where enlarged tonsils and adenoids were diagnosed. On May 25th the growths were removed. On June 20th his eyes were examined and refracted and a prescription for glasses given.

It was found by the mental tests given at the Psychological Clinic that he could read fairly well in the first reader, but could not spell words beyond such monosyllables as "dog," "cat," and "rat". He failed on

"horse" and "boat". His arithmetic was equally rudimentary. He could add 2 plus 3 equal 5; 3 plus 3 equal 6, but failed on 20 plus 9; 9 plus 17; 6 times 6; 7 times 5. Pedagogically he belonged in the first grade and was, therefore, retarded about three years.

On the first trial with the form board he placed the blocks correctly in thirty-five seconds, and required twenty seconds for the second trial, and twenty seconds for the third trial. He knew the names of the colors with the exception of blue and purple, which he confused with each other. His visual memory span was good for two, but failed on three. By the Binet tests he showed the mental capacity of a child eight years old. The pedagogical standing was that of a six-year-old as indicated by the pedagogical tests, and the Binet tests indicated eight. His teacher's opinion, that he was bright and could learn, but was so bad that he would not learn, was borne out by the Binet test.

With this record he entered the special class of the Summer School July 5th.

The mother's health and character, and the atmosphere of the home, go farther than the personal or family history, to account for Giovanni's backwardness and alleged incorrigibility. The mother, worn out with child bearing, is sick a great deal of the time, and has lost all spirit. She is peevish and

irritable, the children are afraid of her, especially the boys, as she strikes them whenever they come near her. The father's mother, a very old woman, is exceedingly jealous of the mother, scolding her continually. The father, seldom at home, exerts his authority over all, and is very severe with the children.

The boy's reaction to this is natural enough. He plays on the streets and goes into the house as little as possible. At school he was reported as being in mischief continually, when he wasn't playing truant. His truancy and his lack of interest in school may be accounted for in part by the condition of his eyes. He has an internal strabismus, and the oculist who examined him reports no binocular co-ordination and that he is nearly blind in one eye. Naturally school work of a formal kind would have no attraction for him.

The mother's brother was the one good home influence the boy had. He was a tailor and lived near by, and did as much for the boys as he could in his simple way. He beat them occasionally, but also fed them, and was so generally kind that they preferred his house to their own. Before G. came to the special class, his uncle took him to live with him, and agreed to pay his carfare to the summer school.

2. *Wilbur Benson*, a boy ten years old, was first brought to the Psychological Clinic on account of

moral delinquency and speech defect, on April 10, 1911, by his stepmother, who had been advised to do so by her minister.

The recent life of this boy had been fairly free from any untoward events. His birth was difficult and the delivery made with instruments. It was reported that he had a large head at birth and that his skull was somewhat deformed from the prolonged parturition and the use of forceps. He suffered from no particular diseases or falls, though he has always been a somewhat restless sleeper. When he was seven years of age an adenoid vegetation was removed at the Samaritan Hospital.

No items of any importance were elicited from the family history. His father is living and well. His mother died in child-birth. There were seven children born in the family and he was the sixth child. The oldest girl and the third child have speech defects, but otherwise there is nothing wrong with the other children. The youngest child was still-born. No abnormalities were reported in the grandparents on either side of the house.

The boy's general appearance is not at all unprepossessing. He is short and stocky and his head strikes one as rather large. His height is 128.8 cm. and his weight is 26 kilograms. His general nutrition seems to be good and he has a steady and erect carriage.

His musculature is generally well developed, though his chest is flat. His hair is dark brown, normal in thickness and texture. His skull, as has already been noted, is rather large, having a girth of 21.6 inches, the biparietal diameter measuring 6.1 inches, the occipito-frontal 7.3 inches, and the occipito-mental 8.6 inches. His teeth are in good condition. He complains somewhat of headaches and that his eyes hurt. Examination of the naso-pharynx showed the nose and throat to be in good condition. A Wassermann test for syphilis was made, with negative results.

This boy started to school when he was six years old, where he has been going for four years without succeeding in advancing further than the second grade. On the Monday previous to his visit to the Clinic he had been suspended for bad conduct. One of the causes of his retardation lies in his speech defect. He is unable to give the hard sound of "c," or "k," or "g," and slurs over the "j" in the word "jump," but seems to pronounce it correctly in other words. He has difficulty with "r," (says "s,") and with "th" in the middle of final sounds. All of his phonetic sounds he makes too quickly, though when he is shown he is able to pronounce some correctly.

He has several bad habits. One of them is running away. On May 19 his mother reported that he had just run away for three days and did not seem to realize

the seriousness of his act. In addition he has the habit of taking little things about the house and occasionally abstracting money from his mother's pocketbook.

In the examination for mental capacity, he was able to do the arithmetic, spelling, reading and dictation of the second grade, but the quality of his work was very poor. The Binet tests indicated the mental capacity of a boy of eight. In sense acuity tests he was able to distinguish and name colors and his memory span was good for six colors. He can wash and dress himself and make his toilet completely except tying his necktie. He runs and plays games with the other children, likes to throw a ball, and handles a hammer, saw and nails. He learns songs very easily.

W's family live in a large house, which they occupy with the family of Mrs. W's sister. The father is very impatient with children, and Mrs B., although only their stepmother, is completely responsible for them. She is well educated, was a public school teacher, and for many years was active in Sunday School work.

W. has regular duties about the house. He carries things up from the cellar, and keeps the yard clean. He takes care of his own fox terrier, and often helps with the dishes, doing this willingly and as well as he can. His wandering habit has not been in evidence since May, except one Sunday, when he stayed out until six o'clock after being told to come back at three.

3. *Henry Birch*, a boy now ten years old, was brought to the Clinic July 20, 1909, by his mother on account of a speech defect. This speech difficulty dates back to the beginning of his talking at eighteen months of age. He is reported to have had a hoarse, wheezing voice. His pronunciation has continued to be very bad. He says "pidzin" for pigeon, "clee" for three, and "wat" for rat. His final "t" is never clearly sounded. No speech defect appears amongst the other children of the family.

The cause of this difficulty did not seem to lie in any of the boy's life events. When a year old he had convulsions, caused, according to the attending physician's statement, by eating too much cake with currants. The convulsions lasted over Sunday night until Monday morning and left the child unconscious until Wednesday. As far as the mother knew they apparently had no permanent bad effects. The boy had had the usual measles, mumps and whooping cough, but none of them very bad.

The birth conditions were hard. The child was born at full time, but the labor was difficult and the delivery delayed. He did not cry immediately after birth and was probably partially asphyxiated.

There are three other children in the family besides H., two older and one younger. All of them are normal mentally, though the older sister at one time had

St. Vitus' dance. The two older ones succeed very well in their school work and give no trouble in their conduct.

The boy's father and mother are both living, but the health of neither is good. The mother suffers from a weak heart. No mental abnormality appears in the family history on either side and no speech defects are known in the boy's parentage.

In appearance he is a boy of the usual Irish type, with light, freckled skin, somewhat coarse, and light hair inclined to be sandy. His height is 129.2 centimeters and his weight is 25.4 kilograms. His head is rather large with a girth of 20.5 inches; transverse diameter, 5.25 inches; occipito-frontal, 7 inches, and occipito-mental, 8 inches. His forehead is broad, but not very high. His complexion and circulation are good. His ears are small, but well developed, and his nose is decidedly short and inclined to turn up. At the time of the examination he was suffering from a sty on the left eye. His tonsils had been removed three years before. At that time the operating surgeon said that he was tongue-tied and that the surgical relief necessary would be attended to while he was under the anæsthetic. The mother stated, however, that she could see no difference in the boy's speech after the operation. He still breathes with his mouth open both awake and asleep and snores a little. His teeth

were carious and needed dental attention, with some irregularity limited chiefly to the left lateral incisor on the lower jaw. The cardiac pulsations were forcible, but without murmurs. His mother gave a history of sick spells or bilious attacks from which he suffered when he first attended school. The attending physician at that time recommended a lighter diet. At intervals also he had such a sore throat that he could not talk at all.

About January 25, 1910, he was circumcised. About the same time a nose and throat examination was made and it was found that the adenoids and tonsils had not grown again, though he was somewhat affected with pharyngitis.

The pedagogical history is a varied one. He began his educational career at six years of age in a parochial school. He did not make much progress and the teacher in charge considered him a "dumb" child. He continued in that school with an unvarying record for disobedience and inability to learn until he was about eight years of age when he was removed to a regular public school. Here too there was no improvement in his ability to learn nor in his conduct. The principal of the school declared that H. was "absolutely impossible as a pupil; that no one could teach him anything and that he was the kind of a scholar who makes the teacher particularly discouraged." To aid him as

much as possible, the father spent two hours each day trying to help him with his lessons. Those who observed his work under his father's tuition noted an apparent increase in the boy's mental ability. He was able to spell and pronounce words for his father which he could not spell or pronounce in school. The parents attributed the difference to the boy's shyness. On account of his school disability, he was finally removed from the public school, with the eager consent of the teachers, and sent to live with his aunt in another part of the city in order that he might attend a special class. After about a month's attendance in the special class the teacher reported that he was getting along "all right," though his aunt noticed that he seemed to be suffering from homesickness.

At the time of his examination at the Clinic he could read a little in the first reader, could count to 12, and could add such simple sums as $2+1=3$; but failed on $3+2$, which he said equaled 4, and $2+2=3$. He spelled "cat," "rat," "mat," and "hat," but could not spell "dog".

His mother reports that at home he is very active, always running about, playing and shouting. He mixes with children of his own age, but likes to quarrel with his sisters more than anything else. He refuses to study his lessons at home. He is very fond of singing, but does not sing well because of his small,

wheezy voice. He is not obedient either at home or in school, though his temper is not bad.

At the second visit to the Clinic, October 25, 1909, he was able to count to 17 and later in the afternoon to 20. He was tried on the alphabet and got no farther than "g," although he had been drilled on this exercise by his mother. His spelling showed the same errors as the first test. His writing exercises for May, 1911, showed fair improvement for a boy of his age and backwardness. In multiplication every one of his problems with two figures in the multiplier were wrong.

On July 17, 1911, a Clinic social worker called on Mrs. B. at her home, which is an attractive little two-story house with a good sized front yard and porch on a street wide and fairly clean. Mrs. B. appears to be in bad health and says her heart is weak, and is further exhausted from nursing her husband of fifty, only just recovered from an illness. Both are fairly educated, able to read and write and intend to keep their children in school as long as possible. Mrs. B. spoke of having been advised to send H. to the Pa. Training School for Feeble Minded Children when she was at the Clinic two years ago, but felt they could not afford it. She thinks his speech has improved since then, but does not think him better mentally. She appears to be a good mother and any weakness she

shows in the management of her children is due to her ill health.

H. was classified as a mental defective, educable to a small degree, but trainable, and entered the special class July 10th, after it had been in operation a week.

4. *Gertrude Bortel* has appeared before in published accounts concerning the work of the Psychological Clinic. In THE PSYCHOLOGICAL CLINIC, Vol. IV, No. 7, December 15, 1910, pages 193 to 210, under the caption of "The Irrepressible Ego," Dr. Witmer has given a condensed account of the treatment of this case extending from October 24, 1908, when she first appeared at the Clinic, to October 26, 1910, a period of two years.

She was first brought to the Clinic about three years ago by the social worker of a charitable society. The chief difficulty so far experienced with the child had been her uncontrollable conduct. At that time very little of her family history could be found. It was reported that she came from an almshouse in the state: had been charged with striking, fighting and biting grown people; had received very little schooling; was afflicted with a specific disease which rendered her eyesight extremely bad; and had finally fallen into the hands of the Children's Aid Society of Philadelphia, who sent her to the Wills Eye Hospital. Beyond this practically nothing was known of her babyhood or childhood. Later reports, however, revealed that her

mother was feeble-minded, a woman who earned her living by manual work and spent much of her time in the almshouses and like institutions. Nothing is known of the mother's history, but, according to report, she had a sister who was also feeble-minded. The father, as far as could be learned, was a man of ordinary ability, who deserted the mother or at least has never contributed anything toward the support of the mother or the child.

Passing from this rather meager family history over the period of training covered by Dr. Witmer's article noted above, we come to the general physical appearance of this girl, with measurements taken on July 5, 1911, when she entered the special class. She has grown to be rather a large-boned, muscular-looking girl, 139.1 cm. in height and 36.7 kilograms in weight, with an upper chest expansion of 2.75 inches and a lower chest expansion of 1.75 inches. Her head has a girth of 20.5 inches with a biparietal diameter of 5.5; occipito-frontal 7 inches; occipito-mental 7.75 inches. Her general nourishment and circulation were good, as indicated by the haemoglobin test of 70.

Her features, rather coarse and suggestive of the parentage from which she has sprung, are not unpleasant. Her forehead is low, her eyes dark brown with a decided upward and outward slant. The frontal bosses are prominent over the frontal sinuses; her

nose is small, broad at the bridge with a slight septal deviation to the left. Her upper lip is short, her lips full; teeth are good; left ear is a little larger than the right, Darwinian tubercle present on both ears. The sternum is very short indicating a rachitic history; the lungs are sound; her heart beats rapidly and without any murmur. On July 28, 1911, she was taken to an oculist who had been treating her for some time for interstitial keratitis, arising from the specific disease for which she has also received a long treatment. On August 1st she was also taken to an ear specialist for some trouble with her right ear.

The mentality of this child from a technical point of view has never been in doubt. Her conduct and her disposition, however, have been variable and she has been reported by various teachers as unreliable, irritable, irrespressible, without self-control, shy, desiring to please, longing to look well yet looking untidy, fully of energy yet lazy, loving yet unlovely, over-generous yet often selfish, desiring to be helpful yet often unsuccessful when she tries most, emotional yet having no depth of feeling, appealed to best by her love of the beautiful.

As reported by Dr. Witmer she was entered in the public school in the second grade A on October 26, 1910, and last June was promoted to the third grade. On July 5th she was admitted to the special class and

continued throughout the summer, boarding at the private boarding house where she has remained for some time.

5. *Richmond Bronson*, a ten-year-old boy, first brought to the Clinic March 24, 1910, by his mother, who had been troubled by the boy's backwardness in school and by his speech defect. She came on the advice of the principal at the public school where the boy attended.

He had started school when he was six years of age and was still in the first grade at the time of his visit. The general statement was made that he did not seem to be able to learn. The cause for this disability does not seem to lie in any of the events of his life.

The birth was instrumental and difficult, the right eye being slightly injured by the forceps. He was nursed by his mother and had no digestive trouble. He was slow in walking, which he began at twenty-two months of age, and exceedingly retarded in his speech, which he did not begin until he was six years of age. He was always a healthy baby physically and suffered no diseases except whooping cough and a mild attack of tonsillitis. He is the youngest of two children, the other one being quite normal.

In the family history there is nothing to account for his condition. The mother and father are both healthy

and of normal mentality. The grandparents on both sides are normal. There is no tuberculosis, epilepsy or insanity reported in the family.

The beholder is struck immediately with the apparent heaviness and dulness of R.'s face. His body is really not so large or heavy as at first sight appears. His height is 135.5 cm. and his weight is 30 kilograms. His skull is somewhat smaller than normal, being 20.7 inches in girth, biparietal diameter 5 inches; occipito-frontal 7.5 inches, and occipito-mental 7.75 inches. There is a slight internal strabismus and a weakness of the external rectus of the right eye. Pupils react to light, though rather sluggishly. He has been fitted with glasses to correct his vision. His ears are close to his head at the lobes and his hearing is diminished about one-half. His nose is broad and the nostrils thick. His teeth are irregular and decayed, with the upper canines missing. The palate is relatively high and quite wide. The abdomen protrudes (infantile), though his general nutrition seems to be good.

He was recommended for an eye examination and on March 24, 1910, his eyes were refracted. At the same time a throat and nose examination revealed only a small adenoid which did not obstruct nasal breathing and hence was not considered serious enough for an operation. He entered the weekly class for speech

training at the Psychological Clinic on October 21, 1910, and remained until June, 1911.

At the mental examination on March 24, 1910, he was able to do only the simplest intellectual tasks of the first school grade. He could read out of the first reader, form the letters of ordinary words and spell a little. He did not know the names of colors, but could distinguish primary colors. At the form board he placed the blocks in the proper places, but took one and a quarter minutes to do it. In the second trial, however, he cut this down to three-quarters of a minute. In working the form board he first looked at the block and then found the proper place for it. In disposition he is said to be very affectionate; runs, jumps and plays with the other children and takes part in all kinds of games. He is able to dress himself and take care of his daily wants, to eat at table with knife and fork, and in every way to conduct himself as a quiet normal boy. He is slow and sluggish, with the mentality and disposition of a high-grade, educable mental defective of the apathetic type. On July 5th he entered the special class.

R. is living at home, and his home belongs distinctly to the first class, called "good". It is near Fairmount Park, which furnishes ample playground facilities and it is here that R. plays ball. He is also fond of working with tools, and constructs wagons, automobiles and

other toys. The mother is intelligent and wholesome, and is ambitious for R. to become a dentist, but fears that he cannot be prepared for this profession.

6. *Susan Catherwood* is an example of one type of poverty stricken child from the poorer sections of Philadelphia. She came to the Clinic first on April 4, 1911, when nine years of age, brought here by the visitor of a charitable organization, on account of backwardness in school. Her first school experience began at the age of seven in a parochial school, and when brought to the Clinic she had just been promoted to the second grade with a poor record, partly due to irregular attendance, but more particularly on account of inability to learn.

Her birth was natural, at full time, but she was a small baby weighing only six pounds. She was nursed by her mother, and during her infancy lived and grew as an ordinary child. At one year, her first steps were taken, but she early exhibited a speech defect which prevented her talking until she was six years old and which remains with her still. Her first tooth appeared at six months of age; she sat up at eight months and played with toys and behaved like any ordinary child. During her second summer, as is not uncommon with children of her social type, she had what is reported as summer complaint.

There were three children altogether in the family,

but one had died from chicken-pox. S. is the second child. Her brother, who is eleven, is so decidedly defective mentally that he is to be entered permanently in an institution for the feeble-minded. This girl looks like her mother, who is and has always been in good health, employed always in hard work in a textile mill which she continued during the first four months of pregnancy with this child. The woman drinks a glass of beer occasionally, but not to excess, and conducts herself in every way as an ordinary, hard working, uneducated and uncultured Irish woman whose greatest task is to make both ends meet. Her father died of old age after living a life of health and hard work as a brick-layer. Her mother, who was otherwise normal, died of heart trouble, leaving behind ten children, all reported normal and healthy. The history of the mother's family, therefore, presents no abnormalities.

The child's father is living and is reported as mentally normal and healthy. However, he is addicted to alcoholic excesses, does not work steadily and is a chronic deserter. He can read and write, but did not succeed in completing his public school education. His father was killed in a railroad accident and his mother died of Bright's disease. His brothers are all reported normal. From both sides of the house, therefore, this child has a clear mental record.

As has been said, this child looks like her mother, which means that she conforms to the Irish type, with a very florid complexion, freckled face, light, sandy hair, and the speech and actions of a street child of a large city. She is somewhat round-shouldered with the right shoulder lower than the left and a decided spinal curvature to the left. She is decidedly underweight and stunted, with a pendulous abdomen. Her height is 127.0 cm. and weight is 21.3 kilograms, with a girth of head 20.4 inches, biparietal diameter 5.7 inches; occipito-frontal 7 inches; occipito-mental 8.4 inches, and bitemporal 4.5 inches. The grip of her right hand, according to the dynamometer, is 10 pounds and the left 9 pounds. Her skull is well shaped with some marked protuberances in the forehead; her eyes are blue with a vision decidedly subnormal; her nose is broad at the bridge, and nostrils small with upper lip shortened; her teeth much decayed, notched, and covered with deposits of tartar, the upper jaw overhanging the lower fully three-eighths of an inch with her teeth closed, and as might be expected, her palate is very high, narrow and V-shaped. The nose, teeth and palate malformations are probably due to enlarged tonsils and adenoids. Her ears are normal in size, but the lobes and helices are underdeveloped. The nutrition and circulation are not very good, giving her hands a cold, dry feeling. The upper chest expan-

sion is three-fourths of an inch and the lower one-half inch. Her speech is marred by a bad infantile stammer.

The mentality of this child is far above what a casual observer would expect from her general appearance and social station. She reads fairly well in the second reader and remembers a fair portion of what she reads, and her spelling is confined to words of the same grade. She does not know the multiplication tables and her arithmetic is equal to that of the first grade. The Binet tests indicated a mental capacity belonging to a child of about six years of age. A part of this retardation is undoubtedly due to the limited opportunity the child has had for gaining general information and for securing the proper intellectual training. When tested with the form board she started with no apparent comprehension of the task, but gradually worked it out. On the second trial she placed the blocks correctly in about 55 seconds with one mistake, and on the third trial she placed them in 45 seconds with no mistakes. In disposition she is obedient, good-natured, and affectionate, without any marked bad habits except a lack of politeness due to her neglect. At the end of the examination it was recommended that the child be sent to the nose and throat and eye clinics, that her teeth be cleaned, and the orthodontic work necessary for straightening the jaw be performed. After that

it was thought advisable for her to spend some time in the country.

On July 6, 1910, through a charitable society, arrangements were made for the removal of the adenoid vegetation, and this was done May 4, 1911. On July 15, 1911, by special arrangement, she was taken in charge by the Psychological Clinic, placed in a boarding house, and entered in the special class.

Susan's home is at the rear of another house in a narrow street, fairly well paved and fairly clean. The entrance is by way of an alley not more than three feet wide. The yard is clean, except for a pile of rubbish, rags and papers (but no refuse) in one corner, which is to be removed next ash-day. The house is a typical rear dwelling, with three rooms one above the other. It is reasonably airy, and possesses that one advantage of rear houses, privacy. The lower room is clean and neat, but very poor and shabby.

The household consists of Mrs. C. and her three children, D. aged twelve, S. aged ten, and J. aged three, and Mrs. F. a sister of Mr. C. Mrs. F. and all the children looked bright and clean. J. had a hammer, some nails and blocks of wood, and was having a good time, which shows that an intelligent effort is being made to keep the children busy and happy. They are anxiously waiting to have the older boy admitted to an institution for feeble-minded. There is a play-

ground within a block of the house, where he spends the greater part of his time and is very much interested in some manual work taught there. J., the other boy, is an unusually bright, attractive-looking little fellow.

Mrs. C.'s whole life appears to have been the never-ending struggle of a decent and self-respecting woman against poverty and the degradation of a life with a lazy drunkard for a husband. From the earliest childhood, Susan's surroundings have been those of poverty, and often of absolute want. Mrs. C. did not apply for any charity until January, 1910. Before she went to the society the family had lived on bread and tea for a week. The constant struggle for food, and the moving from place to place, have had a serious effect on the children. The only means of support which the family possess are Mrs. C.'s wages, the help given them by the charitable society, and the decidedly fitful payments of Mr. C., who is bound over by the court to pay a small sum weekly toward the support of his wife and children.

Susan presents one of those critical cases fraught with so many possibilities for good or evil to the community which has made her what she is. Through no fault of her own she was born near the borderline between normality and feeble-mindedness, and equally through no fault of hers, the inability to procure the nursing, good food, shelter, clothing, and education

demanding by her congenitally weak constitution, has caused her mentality to waver between advance and retrogression, until now the slightest stimulus or additional burden may throw the balance in either direction.

7. *Julia Crampton*, a girl of eleven years, was first brought to the Clinic April 3, 1911, by her mother on account of the child's backwardness in school work. She had started school when she was six and a half years old and at the time of the examination was in the third grade, where she had been for two years. Her progress in school had always been slow and she had remained almost double the usual time in each grade up to the third. As the child had three different teachers and had attended the classes in which children ordinarily make good progress, the cause of her retardation did not seem to lie in school conditions.

On the other hand, the present history of the child revealed some causes of mental retardation. Her birth, to begin with, was instrumental and extremely long and tedious. She began to walk at two years of age and talked at three years, showing a retardation in both accomplishments. Her first teeth did not come until fourteen months of age, and she did not sit alone until ten months. At five years fainting spells began and continued regularly until April, 1910. Then there was a cessation of the spells until April 1, 1911, when the attack appeared more like a convulsion. This,

with other symptoms, seemed to indicate that the fainting spells had taken on an epileptoid character. Three years previous to her examination the operation for adenoids had been performed, although she continued to catch cold easily and had several attacks of bronchitis.

There is one other living child in the family, and a boy of three years died from whooping cough followed by convulsions. Since the time of his death three miscarriages have occurred. The mother's health is poor. The father is an engineer and works regularly, though he suffers somewhat from kidney trouble. The paternal and maternal grandparents were all normal, though the father had an uncle who was very defective mentally and who died at the age of forty years without any improvement in his condition.

In physical appearance the girl is quite pleasing. She has the appearance of a little housewife, with a certain subdued air of activity about her. Her shoulders droop somewhat and the right shoulder is higher than the left. Her muscular development is fair, though the whole left side of the body appears somewhat smaller and lower than the right. Her height is 135 cm. and her weight is 30.8 kilograms.

She is microcephalic with a head girth of 20.25 inches; a biparietal dimension of 5.9; occipito-

frontal 7.1; and occipito-mental 8.5. Her hair is thin, but glossy. Her eyes are apparently set wide apart and the pupils react normally to light. The internal canthus is adherent and her vision is about one-half normal, and the lobes of the ears are undeveloped. Hearing is normal. The bridge of the nose is rounded and the nose itself is undeveloped. The palate is high. The teeth are irregular, but in fairly good condition on the whole, though one or two are badly decayed. At the time of her examination the hands were cold and moist, though the mother reported that they were usually hot. Cyanosis was evident in the purple hands, and her face and cheeks were flushed. The vaso-motor system seems to be unstable and her heart rhythm irregular.

She was recommended for examination at the eye, nose and throat and dental clinics, and for the Wassermann blood test. The last test showed negative results. Her nose and throat were found to be free from obstruction, but her eyes were refracted and glasses procured. The mental examination indicated a mental capacity thoroughly in accord with her present retarded school grading. She could read fairly well in the fourth reader, but seems to have no idea of making up words by composition. She could tell the names of colors, could distinguish colors, and had a visual memory span for six colors. She answered

correctly $2+1=3$; $4+2=6$; $7+5=12$, but failed on $4+5$ and on 10 cents minus 5 cents plus 1 cent. The Binet test indicated that she had the mental capacity of a child ten years old.

According to her mother's report, she was disobedient and never happy or affectionate, loving housework and enjoying scrubbing and cleaning; seized at times with extremely violent outbreaks of temper without provocation; always nervous and quarrelsome with other children, taking offense very easily and sensitive to any criticism or remarks about herself. She is able to take care of herself and her daily wants, to eat at the table and to conduct herself in the ordinary things of life with propriety.

The principal of the school where she has been a pupil for the last four years reported that she seems to be an extremely interesting case. According to him, with the exception of her arithmetic, which seems utterly beyond her grasp, she is doing fairly well in other studies; her conduct is always good, though he repeats the statement concerning nervousness and sensitiveness. Her grade teacher speaks of the peculiar trait that J. had of ruining her work papers by putting marks through each letter after forming it, a practice that can be prevented if the child is watched carefully, but which returns the moment the watch is discontinued. This action appeared to the teacher to be a form of dis-

obedience and misconduct, against which punishment proved to be of no avail.

Her case was diagnosed as mental deficiency, partially due to hereditary causes and partially to epileptic fits.

Julia is the only child in a good home, particularly well furnished, airy and comfortable, although her father is a night-watchmen earning only thirteen dollars a week. The members of this household are the father and mother, Mrs. C.'s mother, and the girl. Formerly the parents had, in their effort to do the best thing by the child, punished her quite severely, but after suggestions from the Clinic they substituted the punishment of sending her to bed, and they already think this has a better effect. She does not get so excited or nervous. J. is fond of housework and her mother allows her to help her about the house a great deal.

8. *Morgan Cross* was a boy of nine years when he first came to the Clinic, as far back as October 7, 1909. He was brought by his mother on account of backwardness in school work. He began his schooling at the regulation age of six years, and had spent three years in getting into the second grade. His progress was distinctly erratic. In spelling he was usually able to make 80 or 90 per cent grade. In other studies, especially arithmetic, he was exceedingly deficient.

He has the general appearance and expression of a boy mentally unbalanced. His face constantly wears a look of tenseness, sometimes changing to an expression of fear as if he were expecting something to happen to him. His movements are irregular and jerky; sometimes he is seized with such fits of restlessness that he cannot sit quiet even for a few minutes. On this account his teacher at school said that he needed individual attention, and that otherwise he could not be interested in his studies, as most of his mistakes and failures were due to carelessness.

According to the report of his mother, Morgan was born naturally and at full time, and remained a healthy baby, though nursed on a bottle. He was slow in walking, but learned to talk at the usual time. At seven years of age he had measles and whooping cough. A little while previous to his examination at the Clinic he was operated upon for adenoids, and following the operation his parents noted a general improvement in his conduct and mentality.

Three other children were born in the family besides M., who is next to the oldest, and one miscarriage occurred just before his birth. The other two children are normal and the oldest boy aged ten is reported to be exceedingly bright.

The mother's health has not always been good. Some years ago tubercular glands were discovered in

her neck and she moved to the country, where, according to a later diagnosis, the fresh air and country life have checked the threatened disease, though she still remains extremely nervous. The father is a mechanic and adds odd jobs to his regular work. Both of the boy's grandfathers are dead, but both of his grandmothers are living.

The only mental abnormality reported in the family history is that of excessive nervousness in the mother's family. Her mother has had nervous spells which were so marked as to warrant the term insane, though she has never been placed in a sanitarium.

At first glance the boy's physical appearance is not bad. Though slender in build he has a fair muscular development for eleven years and his height is slightly above normal. His height is 137 cm. and his weight is 29.3 kilograms; girth of his head is 21.5; biparietal dimension 5.9; occipito-frontal 7.6; occipito-mental 9. A closer examination shows marked malnutrition, shown by prominent ribs and joints, and marked venation, with sluggish, superficial circulation, the superficial lymphatics in arms and neck being somewhat swollen. Adenoid signs appeared in the nose, broad and flattened with small nostrils; in the high and rather narrow palate, and in his drooping shoulders. The ears are well developed with audition of the left ear more acute than the right. At the time of the

first examination the second teeth were coming through somewhat irregularly. His heart and lungs are normal in size and sound and his pulse is 88. His pupils react to light and accommodation and the eye muscles are well co-ordinated.

He appeared to know the primary colors both by name and by sight, though he sometimes confused purple with green or blue. He could spell "boat," "mouse," but spelled "house" h-o-r-s-e. He could read in the second reader, but did not seem to remember what he had read and was not able to recall any facts from a paragraph. He subtracted 18 from 25 incorrectly and could not divide 50 cents by 25, nor subtract 25 from 50. He was able to work with the form board normally.

After the examination he was recommended for further treatment to the nose and throat and eye clinics. On October 12, 1909, his eyes were refracted and glasses were prescribed. On April 1st of the following year his mother reported that the boy was doing very well. About two months later his case again came up before the school board of the town in which he lived, and his parents were advised to send him to an institution for mental defectives. This, however, was not done. On the following October the boy was taken again to the eye specialist and two pairs of glasses secured, because the boy constantly

lost the ones he had and the intention of his mother was to keep one pair at home and one at school. He informed the oculist he did not study because he had made up his mind to learn carpentry and that there was no use in doing anything anyway, for the world was coming to an end before he grew up. At this time his conduct was very much improved, and in the following February the report was received that his mental progress was also very good as shown by an average of 94 in history and 85 in geography.

He was entered in the special class of the Summer School July 5, 1911.

9. *Flora Cummings*, a girl of thirteen years, made her first visit to the Clinic, November 5, 1910, under the care of her mother and through the advice of a school principal. A casual look at her would in no wise prepare the observer for a statement of her mental condition. She is tall, mature and well formed, quiet and mannerly in all of her actions, carries herself as well as the average girl of her age, with a face more than usually pleasing and pretty, exhibiting that alternation of mobility and repose which usually distinguishes the normal child from the abnormal. It is only when she smiles or begins to talk that her infantilism appears.

The life history of this child is a story of backwardness in almost all the usual instinctive acquirements

of children, with the exception of first dentition and walking. Her birth was normal, at full time, and she was nursed by her mother, who did not notice anything abnormal in her. Her first teeth were cut at the age of six months and she began to walk at eleven months of age. During her teething she almost died, although no spasms or convulsions appeared. From three months of age she suffered much with indigestion, but gained in weight continually. From six months until eighteen months she had fainting spells, which occurred when she was disappointed of any desire, for example, if her mother refused to pick her up from the floor. She did not talk until she was three years old and then her voice sounded as if she were hoarse. From five years to seven she was scarcely able to make herself understood on account of grimaces which seized her whenever she attempted to speak. From the mother's report, her speech defect seemed to be a kind of stuttering. There are no illnesses reported in her life. She began her school life at the usual age of six and has attended several public schools, in which she made no progress whatever. Two months previous to her examination she had been entered in a special class.

In the immediate family there are two other children both of whom are normal. Previous to this child's birth, with the exception of nervousness, the mother

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was in good health. The mother's mother died at seventy-two years of age, having been paralyzed for twenty-four years. The mother's father also died at seventy-two, but from heart trouble. No other abnormalities were reported in the mother's family.

A vein of abnormality appears in the father's family. He himself, according to an aunt's report, has never been able to hold a position except with the help of his relatives. An interior decorator by trade, on one occasion, it is reported, he painted a room and charged \$1 for the day's work, supplying the material himself. For a time he tried to be a conductor on the street cars, but was not able to fill the position. He is extremely dull and phlegmatic. His father is living and perfectly normal. His mother died at the age of fifty from diabetes. One of his brothers died from tuberculosis. The rest of his brothers and sisters are healthy and normal in every way.

As has already been said, Flora's personal appearance is extremely good for a girl of her mentality. Her height is 156.7 cm. and her weight is 42.7 kilograms. Her skull case appears slightly microcephalic, with a girth of 21 inches; biparietal 5.25; occipito-frontal 7.25, and occipito-mental 8.5. Her hair is thick, brown and glossy, and grows well down on her forehead. The general contour of her head and face is good. All of her features are normal and no special stigmata

appear anywhere. Her right shoulder is carried somewhat lower than the left and an extreme flatness of the ribs appears in the lower thorax on both sides. The abdomen is very prominent, but no actual lordosis is present. The heart sounds are quick, active and distinctly heard all over the pre-cordial region. The respiratory sounds are normal and her circulation appears very good.

On November 12, 1910, her eyes were examined by a specialist, who reported that the eye grounds are perfectly normal. A little later the Wassermann blood test was negative.

At the mental examination it developed that she could select primary colors very quickly and could pick out readily any two from a number placed before her. She could read out of the first reader, but was not able to get the sound of certain words like "pony" by the letters. She called "talk" *take* and misread *in* for "is". She could work the form board accurately but slowly. Beyond this her intellectual acquisitions seemed to be nil.

In disposition the mother reports that the child is kind and good-hearted; that she has no fits of extreme temper; that she plays nicely with other children or with children of her own age until they become tired of her inability to keep up with their games. She is so good-natured that she is imposed upon by others.

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Her teacher reports that she is deceitful and appears to be particularly interested in the boys, because she constantly tells the teacher tales about seeing boys and girls of the school kissing each other. She herself is partial toward the boys and is popular with all of them. About the first of December the same teacher reported that the girl was doing much better. She was more obedient and did not pay so much attention to the opposite sex. A second examination at the Psychological Clinic on May 19th revealed nothing new except a lateral curvature in the upper dorsal region, and some weakening of the arch in both feet.

On July 5th she was entered in the special class of the Summer School, classified as a mental defective, educable to only a small degree, but easily trainable.

F. comes from a good home,—good, that is, in some ways. A rather high standard of living is kept up with a great deal of difficulty. The mother does all she is able to do for the child, which is not much, because of Flora's low grade of mentality. The mother is not a strong nature, and yields, it is said, to the teasing of the child. The father is a negative factor in the household.

10. *Agnes Doolan* is a girl ten years of age, who still shows her country rearing in a sound body and clear skin. She was first brought to the Clinic on June 15, 1910, by a social worker of the Children's Aid

Society on account of peculiar backwardness and nervousness. Her difficulties in life began early, for, though her birth was natural, she was extremely small, weighing only three pounds, and was nearly asphyxiated by prolonged delivery. For three months she did not gain much in weight, but from that time normal physical growth began and continued. At eleven months of age she took her first step and was saying her first words when a year old. She had measles, but no other infantile diseases.

Ten other brothers and sisters were born to her parents, one a still-birth, one who died of measles, and nine still living. Some of the other children, however, are backward, especially one of the two who are old enough to go to school.

Just before the birth of this child the mother, who is an American of French descent, was not in good health, though she has since recovered and is well and strong. Her father is living and in good health, and her mother, who had eleven children, is reported healthy. Among the eleven children there was one sister subject to epileptic seizures. The child's father, fifty-three years old, an American of English descent, has always been in good health, but works irregularly on account of alcoholic intemperance. His father was always sickly and died from some liver complaint. His mother succumbed to dropsy; otherwise she was

always in good health and had eleven children all mentally normal.

Agnes started school when she was eight years old, and has attended regularly since that time, five months in a country school and two months in the Normal Model School, but in neither place did she succeed in advancing mentally. Her teacher reports that she entirely lacks concentration and that her attention can be held only for the shortest time. The child is affectionate, sympathetic and obedient. She knew the names of colors and could distinguish colors. She failed to spell "doll," "Fred," or "read" but was able to spell "can". She read a little in the primer, placed the pegs correctly in the peg board, and failed to make combinations with colored blocks beyond 5. As indicated by stringing beads and by her general movements her co-ordination is good. She moves with the ordinary actions of a healthy child and seems to be full of life and health.

Physically, her good appearance is marred somewhat by bad posture due to lateral curvature. Her hair is soft and glossy, her cheeks are full and red and her eyes bright. A second glance at her head reveals that it is somewhat undersized and measurements give a girth of only 18.5 inches, biparietal dimension of 5.25 inches; occipito-mental 8.25 inches; occipito-frontal 7 inches. Her height is 127.7 cm. and her

weight is 30.8 kilograms. The grip of her right hand is 17 and that of her left is 15. The upper chest expansion is 1.5 inches and the lower 2 inches. Her eyes are rather small, possibly on account of some foetal arrest, with defective vision in both eyes, predominating in the right. There were no abnormalities of the ears, mouth, teeth, palate, nose, heart or lungs.

By June 20, 1910, five days after her first visit to the Clinic, her caretaker reported that the child's nervousness had entirely disappeared and that she seemed quite intelligent, affectionate and obedient. Several months later, October 31, she is reported by the same teacher to be rather sulky and to have taken bread and buns from the table and pantry. She still showed energy in housework and a very clever imitation, but was unable to remember the stories read to her, had no idea of locality, and could never be sent on an errand a block from the house. On December 5, 1910, she was entered in the public school in the first grade A, where, on January 4, it was reported by the principal that she was a sweet-tempered, lovable and obedient child, who gave no trouble in the school room and tried desperately hard to do her work. On February 2, she was promoted to the first grade B and did well. On March 28th her work was reported by a Clinic examiner to be about one-third that of

the average child. On May 12th she was again examined at the Clinic by a medical examiner, and on account of a cough pointing to some naso-pharyngeal trouble she was sent on May 19th to the nose and throat clinic of the University Hospital, where adenoid vegetation was diagnosed. She was operated upon June 21st and the adenoids removed. On June 22d she was sent to the oculist, where her eyes were refracted and glasses fitted.

She entered the special class on July 5th.

In making this diagnosis due consideration must be given to A.'s early home environment, which has undoubtedly had much to do with her retardation. The family is very low in the social scale. The father, by trade a lumberman, has worked in a brick yard, and though he is reported to be of over-average intelligence and well liked by his fellows, is not able to hold his job on account of excessive drinking. He has deserted his family frequently and at present has been away for four years. The mother has worked at a variety of things,—washing, cleaning and in a restaurant. She is reported as having normal mentality, being very loquacious and given to posing.

With nine children to be supported in this haphazard way, it is not surprising that the family failed to prosper. Until broken up by the local Children's Aid Society, they lived in a field outside the town.

like animals in filth and rags, the children learning nothing at all and having no intercourse with outsiders. When the Children's Aid Society took A. away she did not cry, but went gladly. She was placed for a year with a farmer, who, according to his own statement, treated her badly, beating her, and not teaching her anything. Nevertheless, she cried at leaving him, an eloquent comment on her former home life.

Two sisters, one seventeen and one six, are in a state institution for feeble-minded. The older girl is undoubtedly below par mentally, but the superintendent gives it as his opinion that the younger is the victim of neglect and underfeeding, which have retarded her mentally as well as physically. It was in hopes of saving A. from the same fate that the Children's Aid Society took charge of her and sent her to the Clinic.

11. *Russell French* is a little boy nine years of age, with ashy complexion and the withered features of a person beginning to grow old. He came to the Clinic February 13, 1911, brought by his mother at the instance of a teacher of a special class of the public school. At seven he had begun school in the first grade, but remained away seven months during his first year because he made no progress. Then he was placed in a special class, where he was at the time of the examination.

He was born naturally and at full time, but his walking was delayed until the age of two and his talking until the age of four. In his infancy he had measles twice and chicken-pox once, and at two years, though reported to be up to that time a fat, healthy baby, he was operated on for appendicitis. Every winter he has had bronchitis and for that reason he wears a pad of cotton over his lungs throughout the cold weather. There were three children originally in the family, but the first child died when four months old from marasmus, and the third, when two months old, from what is reported as summer complaint.

The mother is a woman of thirty-five years of age, in good health, and working daily. Her father and mother are both dead. Two and a half years after the boy's birth his father died at the age of thirty-two from tuberculosis of the lungs. The father's brother is at present in a tuberculosis sanitarium, though both his father and mother are living and there seems to be no hereditary connection with the tubercular diathesis in their two sons. The boy, Russell, though presenting a very marked tendency toward phthisis, was pronounced, after a careful examination at the Medical Clinic, to have no pharyngeal signs of the disease itself.

In general appearance he is short and small for his age, with a height of 123.8 centimeters and a weight

of 22 kilograms; girth of head 19.8 inches, biparietal dimension 5.3 inches; occipito-frontal 7 inches, and occipito-mental 8.3 inches. The tests for sense acuity showed that his hearing and vision are normal. His teeth were badly decayed and very irregular with Hutchison's grooves present in the upper incisors, which led to his being sent to a specialist for the Wassermann test, with a negative result.

In mentality the child was far below normal. He could not name the primary colors, but was able to match them. He could not spell, or read, or do arithmetic, and in school was occupied with simple kindergarten exercises. The Binet tests indicated a mental capacity of five and a half years. He attempted to work the form board by the method of trial and error and showed no improvement on his second and third efforts. His attention was fitful and wandering and he seemed unable to concentrate his mind upon any task for any length of time. Physical weakness and mental fatigue were evident in all he tried to do. He was classified as a mental defective capable of improvement.

On March 9, 1911, a nurse of the Tuberculosis Society visited the home of the boy and endeavored to secure better sanitary and hygienic conditions. However, she met with no co-operation on the part of the family. The mother was living with the aunt,

whom she assisted in a fish market. Mrs. F. refused to permit the boy to leave home, to make any change in the cotton pad across his lungs until April, or permit him to sleep alone until that time. On June 6th an adenoid operation was performed, and on July 5th he entered the special class of the Summer School.

12. *Ernest Haskell*, a boy of nine years, was first brought to the Clinic on Jan. 24, 1911, by his mother on account of backwardness in school. In general appearance E. is a meek, quiet-looking boy, with his head held slightly on one side, his shoulders drooped, and his body drooping like that of an old man. There is a general old-fashioned look about him which causes one to feel for him a sense of pity in no wise justified by his physical, mental or social condition.

He began school in the country when he was six years old, but a few months later when the family moved, he was transferred to a city school. He was regularly promoted and at the time of his examination was in the third year B. Considering the fact that he was changed from a country to a city school, the loss of one-half year in advancement is not serious. His pedagogical retardation therefore may be explained by this one fact.

The personal history of the child bears out this supposition. His birth was natural and at full time and he was a perfectly healthy and normal baby.

He began to walk at one year and to say his first words at the same time, though he was very slow in acquiring a vocabulary. He cut his first tooth at seven months. He has never been seriously ill and escaped the usual children's diseases except whooping cough and measles, the latter appearing only last summer.

In his immediate family he is the third of six children. All the others are healthy and bright; one boy of fifteen graduating from the grammar school this year. His mother and father are living and in good health. The grandparents on both sides of the house were normal and healthy, all of them living to a good old age. There were twelve children in the mother's family, all of whom are living and healthy.

The physical examination showed that Ernest is 135 cm. in height and 29.4 kilograms in weight; that the right shoulder is slightly elevated; that there is a convex curvature of the spine to the right in the dorsal region. His head is rather large for his body with a girth of 20.8 inches; biparietal dimension of 5.25 inches; occipito-frontal dimension of 7.25 inches, and occipito-mental dimension of 7.75 inches. He has been wearing glasses for about a year and has recently had his eyes re-examined. His hearing is good. The only marked physical defects apparent were the broad bridge of his nose, his protruding scapulæ, his drooping shoulders and the spinal curvature noted above. Some of these symp-

toms it was thought pointed to a nasal obstruction, due possibly either to a deflected septum or to adenoid growth, but upon his being sent to a nose and throat specialist for examination, the nasal obstruction was considered so insignificant that an operation was not advised by the physician. On July 3, 1911, he was circumcised. Following his examination and operation, according to the report of his school principal, his progress in school was greatly accelerated and he was promoted to the fourth grade B at the end of the school year.

In the examination for mental capacity made upon his first visit to the Clinic, it was found that his memory span was only fair, being good at first for only three colors, though after three trials he succeeded in naming four. He spelled correctly such monosyllables as "cow," and "dog," but failed on "horse," and spelled "goat," g-o-t. He answered correctly such problems as $5 \times 5 = 25$; $3 \times 3 = 9$; $4 + 3 = 7$; $17 + 8 = 25$; $8 - 5 = 3$, but failed on $17 - 4$; 8×8 ; 9×8 ; 7×6 ; 4×4 ; 2×4 . He worked the form board rapidly, with precision, and without mistakes. These facts, taken in consideration with his clear family history and the absence of any causes for permanent mental defect in his own life, compelled the diagnosis of his case as simple retardation probably due to transference from a country school and to natural slowness aggravated by physical

defects. He will probably always remain slow in his acquisition of knowledge though he may go on progressing indefinitely.

Ernest belongs in a home that is "good" by definition. The surroundings are good, with the exception of the near-by car barn. The house is a small, neat, two-story dwelling, and is well kept. His mother is a woman of rather unusual intelligence, of a pleasant, calm temperament. She is interested in her boy's development, and is more than willing to co-operate in his care in any way possible. She stated it as her conviction, without seeing the fatal implication, that if his "attention could only be secured he would be like other children." Ernest is fond of tools, and at home spends much time making wagons and other playthings.

13. *Samuel Hartenstein* was a bright eyed, dark complexioned, Russian Jewish lad, nine years of age, when he was first brought to the Clinic April 1, 1911, by a social worker of a charitable organization. His backwardness and bad conduct were the causes of his visit. He had been in the care of this particular organization for three years and had received special attention in his lessons. He started to school at the age of six, spent one year in the first grade A, six months in first B, six months in second A, and six months in second B. He was put in the third grade A to see if

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he could get along with another teacher and not because his scholarship justified the advance. Later, however, because no improvement occurred, he was demoted to second grade B, but again placed in third A where he remained until June, 1911.

This boy is the only child in the family. Significant circumstances of his birth and babyhood are not procurable to any extent on account of the mother's inability to speak English. According to her, he was born on shipboard. He had measles when three years old and at that time was very nervous, and his adenoids and tonsils were removed in the fall of 1910. Beyond the statement that his father was a Russian from whom the mother ran away seven years ago, and that he was extremely nervous, no family history was procurable.

The boy's general appearance is not at all unpleasing, though a profile view gives him a decidedly negroid aspect. His head appears to be somewhat microcephalic with a girth of 20 inches, biparietal dimension 5.25 inches; occipito-frontal 6.75 inches; occipito-mental 7 inches. His height is 125.7 cm. and his weight is 27.3 kilograms. The vision of his left eye appears subnormal with the right slightly better. His soft palate appears to have been amputated when the adenoids and tonsils were removed in 1910. His teeth are fairly regular, white and clean, though the upper teeth overhang the lower ones.

The examination for mental capacity agreed well with the statements made by his teachers. He could not spell the third grade work or even the second grade, nor could he read in either grade, though in the first reader he was able to pronounce words hesitatingly with several mistakes. In arithmetic his answers showed that he was not able to visualize. When asked to subtract 25 from 40 he would answer 25. When, however, he wrote down the problem, the answer was correct. He knew the names of colors and could distinguish colors. He placed the blocks in the form board correctly in the normal way using the left hand. On the second trial, though he is left-handed, he used his right hand with the same result. He knew the names of common objects and their uses. His mentality was called in question by a social worker upon the very curious ground that he would leave the dinner table and sit on the floor.

Backward as he appears to be mentally, his conduct has been giving even more trouble. Like many boys of this class, conflicting reports have been current concerning his mentality and conduct. The agent of the charitable organization reported that he plays truant from school, "shoots crap," and has fits of extreme temper; and according to another report, he throws stones at other children, both boys and

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girls. He not only appears unable to do his school work, although he is helped, but does not seem even to wish to make any progress.

Quite different are the reports of the social workers of the Psychological Clinic, gathered from visits to his home and conversations with his mother and the neighbors. According to his mother his conduct is good. In the evening he plays with the older boys in the street, playing running games, stealing rides on wagons, and cutting up the usual pranks of boys. Saturdays and Sundays he goes to the playground, several of which are located in the neighborhood. He spends a great deal of his time at the Young Women's Union, where he enjoys a daily shower bath in the summer. He sometimes goes to the moving picture shows, and is robustly fond of cowboy and Indian pictures. The mother denies that her boy ever plays with the girls. Sometimes he helps her with her business, and displays in this a modicum at least of his race's proverbial shrewdness. At the same time she believes that Samuel has a "weak brain," as she expressed it, and in this she agrees with the vague estimate placed upon him by the neighbors.

The home is in what might be termed the "Yiddish quarter". The streets in this district are lined with dwelling houses, the lower front parts of which have been converted into stores and markets. In the

particular street where S. lives, the street is broad, but the pavements are filled with stalls where live chickens are sold.

The family, consisting of Samuel and his mother, live in one very small room, located on the first floor at the back, and lighted by one window, which is kept open all the time. Mrs. H., described as being a rather comely woman, apparently about forty years old and dressed carefully and neatly for her class, sells cotton goods on the street near her house. On the first visit made to the home she was very friendly and said she appreciated all that was being done for Samuel by every one. She is bright, quick, nervous in appearance, and does not speak or understand very much English, although it was possible to talk with fair understanding about her boy, to whom she is devoted, as he is to her.

With this record, and classified as a high grade mental defective capable of some education, S. entered the special class on July 5th.

14. *Abraham Leschitisky* is a boy now eight years old, brought first to the Clinic on July 3, 1909, by his mother on account of certain defects of speech. His pedagogical career, which was greatly hampered by this speech defect, began on December 15, 1909, in the kindergarten of a neighborhood house in the lower part of the city where he lives. During the winter

of 1910 and 1911 he attended a public school, but was reported as backward.

His personal history is not very promising. At one and a half years of age he had meningitis, followed at five and a half years by diphtheria, which confined him to the Municipal Hospital for three weeks. Before the meningitis he had begun to talk, but afterwards failed to make much progress and still continues to enunciate with an infantile stammer. He is able to sound most of the consonants, and to pronounce "a," "e," "i," "o" but says "oo" for "u". In the immediate family there are four other children all of whom are apparently normal though slow to speak. The father and mother are both Russians. They are both in good health; and nothing abnormal could be found in the family history of either parent.

In personal appearance the child is slightly built and undernourished, with a head box-shaped and suggesting rickets. His shoulders droop, the left shoulder is higher than the right and his footstep is dragging and listless. His whole manner is one of fatigue and lack of interest. On July 7th his height was 115 cm., his weight 21 kg.; upper chest expansion 1.5 inches, lower chest expansion 2.5 inches; girth of his head was only 19 inches, with a biparietal dimension of 5.25 inches; occipito-frontal 6.5 inches, and occipito-mental 7.5 inches. His skin is clear, his

eyes are large, the vision normal. His ears are large and stand out well from his head and his hearing is dull. His nose and throat, teeth and chest are normal.

The mental capacity of this boy on account of his Russian surroundings, his partial deafness and general poor physical condition, is very hard to determine. After he started going to the kindergarten his teacher reported that he was doing remarkably well, but upon his entrance to the public school the report was the very opposite of this. He learned to copy things, but did not learn to read, though the teacher thought he could improve with individual attention. On November 21, 1910, he was sent to a country home at Gwynedd, where he remained four weeks and where his physical condition was greatly improved. From this home came the report that he chattered a great deal. On February 17, 1911, he was entered in the special speech class at the University of Pennsylvania. On July 5th he entered the special class.

On July 25, 1911, a Clinic visitor found Abraham's family housed in a small two-story dwelling on a narrow residence street in a poor quarter of the city. The house was clean and fresh, with a small front room used as a parlor, very neatly furnished, but rather crowded. The kitchen was clean, with door and window opening into a yard which presented a most attractive appearance from the front of the house,

with morning-glories climbing up the strings stretched from fence to kitchen, under which the family table was set and where the meals were sometimes eaten. A bench and a swing in the yard attested the thoughtfulness of these people for their children.

Abraham eats very little at any time, drinking a cup of coffee and perhaps eating a piece of bread for breakfast, getting lunch at the special class, and going to bed after a light supper. He and his brother sleep in separate beds in the same room supplied with plenty of fresh air, but he does not sleep very well on account of dry nasal mucous membrane, for which he has had some treatment at the University Hospital.

15. *Clara Sampson* was a short, old-fashioned looking little girl of eight years when her father first brought her to the Clinic on April 29, 1911, on account of backwardness in school. She had been entered in a kindergarten and had been attending about a year without making any noticeable progress. In the minds of her parents there appeared to be no cause for this backwardness. Her birth was normal and at full time, and though she was small at birth she began growing naturally if slowly. At fifteen months of age she began to walk, but did not talk until very late, and at the time of her visit was still very backward in this respect. The first time the parents noticed any difference between her and the other children was

after an attack of whooping cough when she was about one year old. Although since that time she has had no serious illnesses, yet she has been steadily falling behind her brothers and sisters in normal progress.

In the immediate family there are four children, of whom Clara is the second child. All the other three are normal in every way. The father is a farmer, strong and healthy, who comes from a very long-lived family. The father's grandfather, however, died from tuberculosis. The mother of the child is living, but has had frequent fainting spells brought on by over-excitement, though otherwise she appears to be a healthy woman. Tuberculosis also appeared in one of her sisters and her sister's daughter, both of whom died of this disease.

Physically, the child appears well formed, with no special stigmata of ears or face, although she presented at her first visit to the Clinic a slight appearance of the adenoid physiognomy with the depressed nose, the high palate, the tonsils enlarged and very much inflamed and the mouth occasionally held open. Her teeth were badly decayed and a catarrhal condition was indicated. The skin was dry with dark pigmentation present and the hands slightly cyanosed. The hearing appeared to be very much diminished. Her head presented no abnormalities except a noticeable

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microcephaly. The skull girth is 19 inches; biparietal dimension 5 inches; occipito-frontal 7 inches; occipito-mental 7.5 inches. As already noted the child is somewhat short, her height being 120.5 cm. and her weight 23.7 kilograms. The grip of her right hand is 10 kilos and of her left 8; hæmoglobin test on July 3d, 70.

When given the form board to work, she placed the blocks correctly and in the normal way. At first she did not seem to know her colors, but after a little instruction learned *red, green, yellow and blue*. Her father reported that the child seemed very bright in some things and could do them well. For example, she washes dishes, plays jacks with the other children and engages in children's games without difficulty. She is very bashful and sensitive and at times exhibits a marked temper. She is able to dress herself completely except the buttoning of buttons in the back of her dress. She is able to eat at the table and in every way care for herself. From April 29, 1911, to June 28, 1911, she was in the care of the Woman's Hospital of Philadelphia. During that time her nose and throat were treated and adenoids removed; her eyes were refracted and glasses fitted; four teeth and some roots were extracted, and local treatment administered for gonorrheal vaginitis, which she had contracted, probably at school, unknown to her parents.

From the hospital she went to a boarding home and was admitted to the special class on July 5th.

16. *Robert Schmidt* was brought to the Clinic on July 22, 1910, by his mother and by his teacher in the public school on account of his backwardness and speech defect.

The personal history of the child showed that his birth had been instrumental, that he weighed thirteen pounds when born, and was nursed by his mother. He began to walk at fourteen months of age, but did not talk until two years and never has talked plainly. His first teeth did not appear until he was a little over a year old. During his babyhood, when about a year old, he suffered from membranous croup, which was followed at the age of four by a slight attack of scarlet fever. His speech defect called attention to his throat, and at five, his tonsils were removed, with almost immediate improvement in his speech. No other illnesses are recorded, and only one serious accident, which occurred at the age of eight, when he was run down by an automobile.

The family history revealed no abnormalities on either side of the house. His mother, though under a great deal of nervous strain and worry, was in good physical health just before he was born. His father is living, but has suffered with St. Vitus' dance from his birth, though it did not seem to affect him

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mentally, for his progress in school is reported as good. The father's mother and father both died of acute diseases, and his brothers and sisters are normal. The mother's parents are both living and well, and the mother's brothers and sisters are normal. With the exception, then, of the father's neurotic condition, no bad family history was discovered. Robert's brother, who is younger than himself, is doing well in his school work and giving no cause of uneasiness.

The mental examination, beginning with the educational history, showed that R. had started school when he was six years old, had attended regularly and, at the time of his examination, was in the low third grade. Pedagogically, he was retarded about one year. His teacher reports that he is poor in spelling; that at first he did long division well, but was not able to do it later on. The mental tests corroborated his poor spelling. Such elementary words as "horse" he misspelled, giving the letters as h-o-s-e. However, he was able to read well in the third reader, though his enunciation was very poor. He could recollect easily what he read, so that he succeeded in acquiring the meaning from a printed page. His visual memory span was good for three colors, although he failed on four. His auditory memory span was good for six colors. In such elementary matters as the names of colors and distinction of colors, the form board, work

with tools, play, and running errands, he was as good as any other boy of his own age. He belonged to a baseball team and played center field in the game. He was reported to be affectionate, obedient, good-natured, fond of pets, and exceedingly anxious to learn, though he grew excited and nervous whenever he undertook a hard mental task.

His height is 139.7 cm. and his weight is 31.8 kilograms. His intelligent, pleasant face is wreathed in smiles much of the time. His hair is brown and rather thin, and his skull dolichocephalic, with rather a broad and high forehead sloping backward. His nutrition appears to be good, though his circulation is poor, as indicated by slight cyanosis of the hands. His eye co-ordination,—like his general muscular co-ordination,—is good, though there is a slight asymmetry present in that the right eye is a little smaller than the left. Vision is defective. His ears present no abnormalities, though the lobes are not as fully developed as they might be. He hears a little less on the right side than on the left. His nose is broad at the bridge with large nostrils and a slight deviation of the septum toward the left, the upper lip is somewhat shortened, which tends to keep his mouth open. His tongue has been operated upon. The teeth are regular and far apart and some are decayed. His chest is full and he holds himself well. His heart beats strongly.

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After the examination at the Clinic he was entered in the speech class, October 29, 1910, where he remained until May 12, 1911. Here he received training weekly for his articulation. He did unusually well in building up sounds like "st" in "still" and "ish" in "wish," though he had special difficulty with "post". On the whole, he made improvement and hope was felt that continued training of the same kind would finally overcome his speech defect entirely. On May 19th arrangements were made to enter him in the special class of the Summer School, where he came on July 5th and remained until the end.

After his examination he was diagnosed as normal mentally, but retarded in his pedagogical progress on account of his speech defect.

Robert is the only child in a good home, the other son having been adopted by relatives. The boy sleeps alone; his bedtime is eight o'clock, but he very often stays out until later. He gets up at six o'clock, but says that he is able to get up at five. His mother says he is a sound sleeper and always happy.

There is a public park near by, and Robert plays there a great deal with the other boys of his own age. There are two unfavorable influences in his environment. The first and less objectionable are the moving picture shows, to which he goes two or three times a week. The mother does not disapprove of this; on

the contrary, she thinks it is good for him, but this means that he is often up until ten or half past ten. It also turns his mind to fighting Indians in the West, and going to war, and killing people. The second bad influence is a hotel two doors away from his home. Here a very rough crowd of boys gather to loaf, talk, and play with cigarette cards. The kind of talk which goes on in such a crowd is anything but good. R. sometimes spends hours at a time playing with the cigarette cards, and cannot be persuaded to put them away.

17. *George Singer*, aged eight years, was first brought to the Clinic on May 4, 1911, on account of uncontrollable outbreaks of temper, according to the statement of his mother, who accompanied him. The uncontrollable outbreaks of temper, however, were merely symptoms of a deeper and more serious mental defect. This did not exhibit itself in the usual form of backwardness, for this boy is considered bright. He started going to kindergarten in a country town when about six years of age. At the time of his examination he was attending a city public school and was in the third grade A, being about six months in advance of his years. At the time of his entrance in the urban school, he had been getting along splendidly, but the mother thought that she saw a change come over him in the two years preceding his examination at the

Clinic. Owing to his nervous condition he had been kept from school for about three or four months on the advice of a physician. When he returned his conduct had so far retrograded that he was sent home several times by the principal with notes stating that his lessons and conduct were both unsatisfactory.

His mother reported that he was exceedingly bright until about two years of age, when she saw a slight change. He walked at the age of one year and talked at the same time. At the age of two he was talking so well that his volubility was remarked and he was considered much more advanced in this respect than the other children. He had been born naturally, at full time, and was a large, fat baby. He is one child among six, all of his brothers and sisters being normal mentally. One brother is decidedly tuberculous.

The mother, who is a confirmed invalid with a tuberculous tendency, was not well before his birth. She herself is nervous and belongs to a neurotic family, with one sister reported as being especially nervous. Her father died of pneumonia or consumption of the throat, and her mother died of heart disease, from which she suffered for a long time.

The father is reported as being healthy and belonging to a family of eight children, all of whom were healthy, and his parents lived to a good old age.

In general appearance the boy is slight in build and

thin, active in all of his movements, constantly in motion and exhibiting the neurotic appearance of a precocious child with an exceedingly high estimate of himself. His head is rather large for his body, strikingly lengthened toward the occipito-parietal junction, with a girth of 20.25 inches; biparietal dimension 5 inches; occipito-frontal 7.1; occipito-mental 8.7 inches. His height is 132.2 cm. and his weight is 21 kilograms. His eyes and ears present no special stigmata and are quite normal. The roof of his mouth is rather high. His skin is brown and his mother reports that sometimes it turns a greenish-yellow. His hands are moist and infantile in shape. Both the upper chest expansion and the lower chest expansion are two inches in respiration. The grip of his right hand is 13 kilos, and the left 14; the hæmoglobin test on July 10th was 65.

At the mental examination he showed that he could do all the ordinary school work like reading, writing and arithmetic of the third grade A. The difficulty has never been great with his mental progress, but always with his conduct. He is very talkative and imaginative and told the examiner that he wanted to go to Africa. He tells stories which are manifestly untrue, asserting for instance that the teachers have cowhide whips in school with which they whip the children. His erratic mentality was shown by the

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fact that on the day of the examination he knew the multiplication tables to 5 only, while at other times he knew them all. At one time he could draw well and spent hours at this occupation, but has given it up for no apparent reason.

About two years previous to the examination he woke one night with a screaming spell which his father said was temper. He grasped convulsively at the bed clothes and continued to scream until overcome with a nervous chill. The mother said, however, that on the previous night, May 3, 1911, he had had several chills of the same nature. Following that attack he exhibited a marked change in his behavior. Sometimes he will obey, but sometimes he cannot be compelled by punishment or by the offer of any reward to do what he is asked. His mother reported that on the Saturday before his visit to the Clinic it required a full grown boy, a sister and a woman to hold him to the floor while in a spasm of extreme anger, in which he kicked, bit, scratched, and finally frothed at the mouth. Some of his acts are entirely senseless, like throwing grass upon the supper table just before the meal. In his paroxysms of anger he will break anything in the house or strike anyone. He is ordinarily kind to the other children, but has begun to persecute them. He tore up into little bits the zoological garden tickets belonging to his brother and would have smashed

a vase at the same time had his mother not rescued it. He does not regularly lie or steal, but admitted that he took some rolls from a doorstep at one time and hid them in the hall chest, later giving them to some children. When angry he uses language of extreme vileness. As a corrective for these fits of temper he has been whipped, penned up, and chained, or taken to various places of amusement and things bought for him, but every attempt whether by kindness or harshness has failed.

At the form board he performed the operation successfully in thirty seconds the first time, twenty-five seconds the second time, and twelve seconds the third time. His case was diagnosed as moral delinquency with maniacal outbreaks. He was recommended for examination at the nose and throat clinic. On May 8, 1911, arrangements were made to send him to the Mary Drexel Home to remove adenoids and tonsils and for circumcision. On June 27th a report was received that these operations had been performed, and since then his mother thinks he has slightly improved.

According to the report of the social worker on July 3d, part of his conduct is due to the continual vacillation and weakness of his mother. She would command him to do something and threaten him with punishment if he did not obey her. Then while he proceeded

to carry out exactly what she wished him to do, she would sit helplessly by saying, "Isn't it terrible? This is the way it is all the time." Under these circumstances obedience is hardly to be expected from a boy of this type.

George comes from a home which cannot be placed in any of the three classes mentioned above. Economically the home is good, but the mother is a nervous invalid, worn out by the constant care of a large number of children in the house. Her lack of control over G. was evident at the first visit made to the Clinic, and subsequent visits to the home have shown it even more clearly. The father is too much occupied with his work to give the child any attention except occasional beatings. Added to the disorganized condition of the home, owing to the mother's extreme nervousness and the absence of the father, the surroundings are bad. There is a freight yard close by, where the boys of the neighborhood spend a great deal of time in and about the cars, and also several stables where ice wagons are kept, starting out early in the morning and making sleep impossible to any but people with very strong nerves. On this account G. was removed from his home and placed with one of the Clinic caretakers. It was found to be impossible to do anything with him mentally or morally until his physical condition could first be so built up that he would respond normally

to ordinary stimuli, and until he had recovered from the irritating effect of the constant nagging of his mother and the other children at home.

18. *Oswald Zug*, now eleven years old, is a pathetic little figure of a boy with a long history of suffering and wandering in search of a home. He began life as a foundling, kept in a county poorhouse in the central part of Pennsylvania, lodged with the lowest class of paupers. Efforts were made to place him permanently in some private home, but no one cared to be burdened with a child so frail and suffering from the effects of a serious disease.

Eventually he fell into the hands of the Pennsylvania Children's Aid Society, who hoped to find some medical relief for his congenital affliction. He was examined by several specialists, among them Drs. White, Fetterolf, Burr, and Drayton of the Orthopedic Hospital, who made a diagnosis of congenital cerebro-spinal syphilis, and by Dr. Frazier, by whom the Society was advised to bring him to the Psychological Clinic for his mental retardation which manifested itself chiefly in his inability to talk. The medical treatment has been carried out under the direction of Dr. Burr and Dr. Drayton, who have taken a personal interest in the case which has greatly assisted in the boy's advancement.

On January 9, 1911, Oswald made his first appear-

ance at the Clinic, where his family and personal history were investigated. This boy was born naturally, at full time, and suckled immediately, but was a cross baby and cried much when awake. He cut his first tooth at nine months, but was not able to sit up until one and a half years of age and did not walk until he was four years old. On account of his tongue-paralysis he has never been able to talk plainly or connectedly, but utters sounds which strangers find impossible to understand. Nothing could be learned concerning his pedagogical history except that he had been at the Pennsylvania Institute for the Deaf and Dumb at Mt. Airy, Philadelphia, for several months, from which Institution he was discharged on account of having good hearing.

The reports concerning his early life and family history are comparatively meager. It is known that his father, who was a coal miner, is dead, but nothing is known of his mother's whereabouts. It is reported that the child resembles his mother, who was twenty years old at his birth, and not in good health just before he was born, though she had to work up until nearly the time of her delivery. Her father is living at the age of sixty-four and has the ordinary health of a man of his age. Her mother died at the age of forty-eight, having given birth to eleven children, three of whom are living. All of her brothers and sisters are normal.

Oswald's father died of typhoid fever, being survived by his father who, at the age of seventy-four is in apparently good health, but nothing is reported of his mother. A vague report was received that tuberculosis existed in the family, but in what branch or in what degree is not known.

The general appearance of Oswald, though it has improved since his first coming to the Clinic, immediately touches the sympathies of those who see him. He has the posture and gait of an old man joined with the stature and physiognomy of a child. He walks somewhat uncertainly, as though partly feeling his way, with his hands held half outstretched ready to seize some object for support in case he should stumble. This position of the hands at first gives one the impression that the boy is suffering from spastic paralysis. His mouth is usually held open in the position sometimes seen in one who is trying to perform a difficult manual feat, like attempting for the first time to cut with scissors. His eyes roll like those of a person balancing himself and unable to turn his head. Both of these conditions,—his open mouth and rolling eyes,—are accentuated when he makes his pitiful and earnest endeavors to talk. This inability appears to be the most overt sign of his retardation, though he is equally retarded in other mental and manual attainments.

The physical examination made at the time of his

first visit to the Clinic corroborated the first impression one receives of his being under height and under weight. On January 5, 1911, he weighed 21.3 kg., but by July 5, 1911, he had gained 1.7 kg., or about three pounds. On the latter date the grip of his right hand was 10 kg. and of the left 8 kg.; his upper chest expansion was 1.5 inches and the lower chest expansion 1.75 inches, girth of head 19 inches, biparietal diameter 5 inches; occipito-frontal 6.75 inches; occipito-mental 7.75 inches.

The general disposition of Oswald is good. He has no bad habits; he is good-natured, docile, kind and affectionate. At times when he is down-hearted he indicates that he wishes he were with his mother who is dead, but whom he remembers well. At first among strangers he seems fearful, but when his shyness wears off and his confidence is gained he responds well to gentle treatment.

On account of Oswald's inability to express himself in words it was difficult, and still remains difficult, to determine the exact degree of his mentality. Many mental tests, like Binet and other pedagogical tests, depend upon vocal expression, and could not, therefore, be applied to him. However, his mental capacity is greater than would at first appear from his looks or actions. He could hear and understand what was said to him, could make himself understood by signs and the

rudiments of writing, and excepting for the effects of the specific congenital disease, seemed to be normal. This opinion has since been strengthened by the experience of those who have had him under observation and to whom he has revealed much of his past,—the occupation of his foster father, a painter who fell from a ladder and was killed, and his mother's death, the mode of which cannot be made out, for Oswald acts all these events in pantomime.

Since his most significant defect was his mutism, due to partial paralysis the result of his disease, his chief training has been all along devoted to teaching him to talk. On February 20, 1911, his first speech lesson was begun with simple exercises for developing the upper lip muscles. In spite of an irritating cough the speech training was continued, with two to four lessons weekly until May 2, 1911, during which time he showed steady though slow improvement. Beginning April 4th he was given regular gymnastic training on Tuesdays and Thursdays of each week, which he continued more or less regularly until July 5th. His advance at the gymnasium during this period and at a later time was greatly interfered with by his physical condition, which varies from extreme lassitude and weakness to a fair degree of strength, dependent somewhat upon the medical treatment he is receiving for the specific disease from which he suffers.

CHAPTER IV.

THE EDUCATIONAL ORGANIZATION.

BY ELIZABETH E. FARRELL.

The organization of the special class will be considered under two heads,—the organization done before July 5, 1911, and that which was necessary after the children were present. In preparation for the real work, an organization on paper was perfected. This had to do with a scheme of work which seemed possible of accomplishment; the grouping of the children according to their ability as indicated in the reports submitted; the statement of the pedagogical problem presented by each child; the laying out of a time schedule or program of exercises; the selection of teachers, and the assignment of work to them. The second phase of the organization concerns those factors of school environment which bear particularly on the physical well-being of the children. These are the adjustment of furniture, assignment of seats, desks, and wardrobe room, and similar matters.

The paper organization was the result of a series of conferences between Miss Walsh, Mrs. Pfeiffer, and myself. The problems of this phase of the work naturally center around a plan of campaign.

To suggest some of these problems will be sufficient. The attendance of children upon summer schools is rarely if ever satisfactory. The reasons for this are obvious,—the holiday spirit is in the air; the weather is prohibitive of persistent effort; for backward children school is not a synonym for pleasure, happiness, success. To overcome these difficulties it was necessary to put forward a most attractive place. The school now more than ever must compete with its only real competitor, the street. To fail would be to acknowledge that the fortuitous education of the street must always and ever count for more in a child's life than the well-ordered, logical, and psychologically adapted regimen of formal education. The problem thus became analytic. What is the attraction of the streets? First and foremost is the constantly changing activity. The boy is never bored by his street life. When one thing ceases to attract, it is pushed aside and he attends to the new and the interesting. The activity goes from hanging on wagons, with its consequent danger and interest, to listening to the street musicians with their bright, catchy tunes. Here then was the first principle upon which the summer school was to be built. It must be at least as attractive as the street in the variety of activity offered.

Upon further analysis it was determined to make the school a place for backward children where pleasure,

happiness, and success were the dominant notes in its daily symphony of effort. This necessitated a strong appeal to each child, which should not be below and certainly not above the psychological level at which he lives. The question was again, what are the interests of the street? Concretely they are the ash cans, the garbage barrels, the policeman, the thousand and one dangers which grown men and women have forgotten, but which have a positive contribution to make to the development of each individual. What the school must do is to utilize the interest which leads boys and girls to investigate cans and garbage barrels; it must make available the interest of the street dangers,—not some of those dangers, but all that any particular child might need. In a word, the chief principle of this summer school should be,—the child must use any kind of power, all the power he has. He must not be saved from his instinctive life. That life must be unconsciously directed in order that in a very real way he may some day reap the fruits of the spirit. Love, joy, peace, gentleness, goodness, faith, temperance,—these things, though so desirable, cannot be imposed on the child. When they are so imposed the result is the letter, not the spirit; the husk, not the kernel.

As the sluggard went to the ant, so the school must go to the street. It has lessons more fundamental than the school. The boy needs its teaching quite as

much as that of the school; to separate them is to fail. To cry down the street and to laud the school is to confess an ignorance of those conditions and of that innate energy by means of which alone man was able to stand erect and to grasp with his hand. The summer school sought to utilize the power which has made men. This was done by correlating all work around the interests based upon the instinctive life of the child. The constructive instinct, the proprietary instinct, the play instinct, the parental instinct, and so on, found material for their use in the consideration of "My Home". That the plan was fundamentally right the statement of the work accomplished will seek to prove.

The second consideration was that of grouping the children according to the ability of each as indicated in the reports submitted. There were two reports for each of the original fifteen children. One gave the Psychological Clinic record, the other was a statement from the principal of the public school where the child was enrolled. The Psychological Clinic's statement appears in the preceding chapter.

The second report, that from the public school principals, gave information as to the child's age, nationality, and the economic status of his family, his physical condition, his school history with certain statements regarding the child's special tastes, peculiarities, etc.

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OBSERVATIONS ON CHILDREN PROPOSED FOR A SPECIAL CLASS.

P.S.....District.....

Name.....Address.....

Age.....Grade.....Nationality F.....M.....

Yrs. in U. S.....Home Conditions.....

Health Record: Nutrition.....Bone Dis.....Enl. Gl.....

Teeth.....Throat.....Nose.....Vision R.....L.....

Hearing R.....L.....Nervous Disease.....

School Record: K'ndg.....terms 1A.....terms 1B.....terms
2A.....terms 2B.....terms 3A.....terms 3B.....terms

Sp'c'l.....terms. School Att.....Cause of Irreg. Att.....

Absence in last two terms.....Attention.....Memory.....

Oral Exp.....Hand Work.....Phys. Tr.....Number.....

Reading.....Writing.....Sp. Tastes.....

Disposition.....Behavior.....Habits.....

Peculiarities.....

.....

Other Information.....

.....19.....

Principal.

These records furnished a sad commentary on the ability of elementary school teachers to observe children. When it is recalled that all of these children were backward in their school work, and that the greater number were reported as at least hard to control, it is significant that under the heading "Special tastes and peculiarities," the statement "Do not know" is made so many times. The problem in hand now was the grouping of the children and defining in its lowest terms the pedagogical problem presented by each. The first group represents the best, the third, the poorest mental power.

GROUPINGS, JULY 5, 1911.

Best	2d best	3d best
Samuel H.	Richmond B.	Abraham L.
Julia C.	Oswald Z.	Russell F.
Giovanni A.	Morgan C.	Flora C.
Wilbur B.	Gertrude B.	Clara S.
Agnes D.		
Ernest H.		
Robert S.		

The time schedule or school program was modelled on the same lines as those in use in ordinary ungraded classes and schools, and appears on the next page.

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DAILY PROGRAMME OF SPECIAL CLASS, 1911.

Divisions	A	B	C
9.00- 9.15	Opening Exercises all together		
9.15- 9.30	Morning talk to all		
9.30- 9.45	Written language	Oral reproduction	
9.45-10.00	Paper language	Language B.B.	Manual work
10.00-10.15	Number	Number	Number
10.15-10.30	Relaxation	Relaxation	Relaxation
10.30-11.00	Manual work	Manual work	Reading
11.00-11.30	Reading	Reading	Quiet work
11.30-12.30	Gymnasium and pool		
12.30- 2.00	Luncheon and rest		
2.00- 2.20	Drawing	Drawing	Sense training
2.20- 2.40	Sense training	Sense training	Drawing
2.40- 3.00	Games	Games	Games
3.00- 3.15	Physical work—all children		
3.15- 3.30	Folk dancing		Corrective for children who need
3.30- 4.00	Articulation		Story dramatization

The most essential problem of the "paper organization" was the selection of teachers. Only such teachers as believed in the fundamental principles of work for backward children as they are indicated above, and only such as could live the faith that was in them, should be asked to carry on the summer work. Out of a large number of excellent teachers, Miss Elizabeth A. Walsh, of Public School No. 165, New York, and Mrs. Margaret Pfeiffer, of Public School No. 10, Brooklyn, were asked to help in the special class. Each of these women for several years has done distinguished work in ungraded classes in New York City. They possess in rare degree that type of mind which seeks for the explanation of conditions found to exist. This explanation they sought in the study of anatomy and psychology under the direction of university authorities. Modern treatment of mental disease and defect they observed in the best schools and hospitals in the East. Motor training from the side of technique found no place in their philosophy of education, but from the side of evolution it offered the same opportunity to these children as that enjoyed by primitive man, on whose level of mentality they probably live. A kind of ability not often possessed by teachers of any grade, the power and patience to train speech, was one of the good things Miss Walsh and Mrs. Pfeiffer brought to the work. Incorrect speech in children has not until very

recently received attention from teachers. This made it difficult to get control of the knowledge extant on the subject. Only a comparatively small amount of all that is being done in developing and training speech is available in book form. This made it necessary for these teachers to make pilgrimages similar to those so common in the Middle Ages, when earnest students went from place to place in order to be instructed by the master in any given subject.

The matter of organization so far as it could be perfected before July 5th was now finished. On the first day of the session the tables and chairs were properly adjusted for the use of the children. The tools were distributed and the work of the summer begun.

CHAPTER V.

THE WORK OF THE SPECIAL CLASS.

BY ELIZABETH E. FARRELL.

When the children reported on July 5, 1911, the regular school exercises took place. For the purpose of discussion, these exercises will be considered as physical, manual, and so-called school work, *i. e.* reading, number, etc. The physical exercises include all those activities which were intended to promote physical efficiency. They fall under the headings of formal gymnastics, corrective gymnastics, organized games and plays, folk dancing, luncheon, and the rest period. All the children took part in all the formal physical exercises when the term began. As the days went by, certain children showed ability to do more advanced work, and there came to be groups doing wand work, others doing dumb-bell work, and during the last two weeks, a group was able to handle Indian clubs in a very satisfactory fashion. Organized play appealed to all the children, while the folk dancing was of use only with the younger children.

Luncheon was served at 12.30 each day. The food was sent in from a restaurant. The girls set the table, and the boys cleared up and washed the dishes.

One of the most satisfactory bits of work done during the session was connected with the luncheon. It was a mental task for the girls to get the right number of places set. To cut the bread was a task which only two girls, Julia and Flora, were at all able to perform in a satisfactory manner. The placing of knives and forks, pouring the milk, passing the butter, etc., afforded the best kind of motor training. The behavior of the boys and girls was a pleasure to witness as they became able to carry on conversation in a quiet way and to ask with patience to be helped to more food. The eagerness with which the boys washed the dishes was a constant surprise. From the biggest to the littlest they asked for a turn. Besides washing dishes, they swept the room and put it in order for the children who were to return for their afternoon nap. When all had finished eating, the boys went downstairs and the girls to the cloak room, to brush their teeth. This habit was formed very quickly. No child had to be forced to do it. As soon as the teeth were brushed, the sleep time had arrived. The rest was taken in steamer chairs placed out under the trees, when conditions permitted, or in the class room. After a day or two, each child slept or kept quiet in his chair for one hour. The following is a detailed statement of the rest period:

SLEEP RECORD

Giovanni A.	6
Wilbur B.	15
Richmond B.	7
Henry B.	13
Morgan C.	2
Russell F.	10
Ernest H.	never slept.
Samuel H.	12
David L.	10
Abraham L.	28
Robert S.	5
George S.	15
Oswald Z.	21
Gertrude B.	18
Flora C.	14
Julia C.	never slept.
Agnes D.	2
Clara S.	18
Susan C.	4

The manual training centered about the building of a doll's house. The children were asked to bring a wooden box. The ordinary soap box was best. Ten

children started the house; nine brought the problem through to completion. Giovanni got discouraged with the sawing. He seemed to lack the imagination necessary to carry him along. The piece of work that required the greatest attention span was done by Samuel. He made a stool with a caned seat. The frame of the stool he made himself, measured, squared, and put it together with dowels. The holes for the caning he had considerable trouble with, but finally got them worked out. The exercise took the greater part of two weeks. To have stuck by it seems to disprove his teacher's statement about his "attention fair". The construction of the house involved work with textiles, clay, water color, etc. As in the physical training, all the children were given the same work, the same opportunity for effort. As the days passed, they grouped themselves and differentiated their work until upon completion each child's work was quite different from the rest. Each bore the stamp of the child's personality. Uniformity did not prevail. The mistakes even were interesting to look upon, not that the children dreamed that mistakes had been made,—and who can say that they were mistakes? There was also a great difference in the amount of work. Some children had made furniture, others had oilcloth and rugs in their houses; still others, pictures and lace curtains.

ACADEMIC WORK.

The thing that was most interesting was the work done in the usually recognized school subjects, reading, number, language, etc. In these again the children themselves indicated what was to be done. All listened to the story, and each reproduced it according to his ability. The main interest in this is connected with the following children: Robert, Ernest, George, Julia, Gertrude and David. The first written language work with this group was done on the black-board. It was a reproduction of the morning talk. From a garbled, badly written account of the talk, these children learned to write sentences correctly and to arrange in a more or less orderly manner the work in hand. Each child selected his own spelling words. The gain in time, interest and responsibility is to be reckoned with here.

In conclusion I want to say that the purpose of the school was to interest the children, to direct their activities and to improve their physical condition. That they were interested is proved by the attendance (see following table). That their activities were directed is proved by the variety of work and effort that blossomed as finished products. (See illustrations, plates XXI-XXXII.) That the physical efficiency of each child has been promoted will appear in another report.

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STATISTICS OF ATTENDANCE.

Aggregate attendance.....	559
Average daily attendance.....	18.6
Per cent of attendance.....	.983
Present every day.....	12
(Including a normal boy.)	
Absent one day.....	6
Absent more than one day.....	1
(3 days due to illness and treatment at hospital.)	

The physical training of the children required some care and management in order to bring about the best results. It was possible to accommodate the boys in the regular University gymnasium at Weightman Hall for both their physical exercises and their swimming lessons. The girls were given their regular calisthenics by the teachers of the special class in the rooms where the regular daily instruction was given. Dumb-bells and Indian clubs were provided for the purpose and the exercises were also calculated to correct any postural defects and to give the requisite relaxation from regular class work.

The boys, twelve in number, were placed under the instruction of Mr. Oscar E. Gerney, Assistant Instructor of Gymnastics in the Physical Department of the University Summer School, whose professional training for gymnastic instruction and whose experience in the

Nicetown Boys' Club fitted him admirably for this part of the special class work. The following account of the boys' physical training is summarized from his report.

The physical instruction was given daily from 11.30 to 12 o'clock on the gymnasium floor. On July 11th the class work began with simple movements requiring little co-ordination but such as would hold the attention of all the boys at the same time. For example, the first movement consisted in placing the hands upon the hips all together, holding them there for several seconds and then at the command of "Place" returning them to the first position of attention. From this simple movement those requiring greater co-ordination were gradually developed. At the word of command the boys all charged to the right, at the same time raising the right arm flexed in front of the forehead and placing the left arm across the small of the back. This movement was repeated several times and then changed to the opposite movement with the left arm flexed across the forehead and the right arm across the back. At the end of each drill lasting about fifteen minutes daily, several varieties of quick movements were given to stimulate the circulation, to bring into play larger groups of muscles and to warm up the boys preparatory to the better enjoyment of the succeeding shower bath or swim. These exhilarating exercises included

repeated abducting thigh-movements with both arms at the side, stationary running and stationary jumping, until all the boys were blowing vigorously, and the day's lesson wound up with three deep breaths.

A game of indoor baseball usually followed immediately after the exercises. In the beginning the majority of the boys knew nothing about the game, the positions, or the manner of catching the ball, and were very clumsy at throwing and batting. Robert was an exception to the rest of the boys in this respect. At the end of the six weeks, however, all of them except Russell and Oswald had become moderately well acquainted with the game and engaged in it with a fair degree of skill. In the case of these two exceptions it was the neuro-pathological condition which hampered Oswald, a partial paralytic, and Russell, a flighty little creature given to hysterics.

Sometimes the baseball game was varied by relay races. This game was introduced not only for the sake of co-ordination and the zest of contest, but for the training in patience which it cultivates. At first the lack of patience in waiting until the boy was tagged by the previous runner was manifest. However, the necessary self-control was soon developed, so that the boys could contain themselves sufficiently to run most exciting races.

On account of the use of the gymnasium by other

Summer School students it was necessary to make arrangements for swimming lessons three times one week and twice the following week. The lessons were given in the large pool in the gymnasium under the special swimming teacher, Mr. Thomas G. Whittaker, and each boy was put through the regular course of instruction, being directed and supported individually by the instructor who took his place for the purpose in the water beside them. On their first visit to the pool none of the boys could swim and most of them were afraid of the water, and this fear was so excessive in the case of Morgan, Russell, and Oswald that they were not forced to go in at all. Giovanni was the only boy who did not show any fear, though Robert was the first to learn to swim. He was soon followed in acquiring the art by three others, Giovanni, Abraham and Samuel.

On the whole the physical work of the class has been good. Every day up to the end of the term the boys showed improvement in their movements and in their attention, gave every evidence of enjoying the exercises and showed ambition to improve in their tasks, and not only were able to perform their old exercises with exactness of movement, but showed an increasing capacity to learn new exercises. As compared with classes of so-called normal boys their conduct was exceptionally good. At first it was hard to

secure obedience to commands, but that seemed to be due chiefly to lack of attention. When their attention was gained and they were kept busy all of the time without pauses, the obedience was all that could be desired. The following is a report in detail of each boy as submitted by the instructor.

Giovanni, the boy who took so readily to the water, also showed a marked interest in the floor work and derived a great deal of benefit from it both in noticeably improved co-ordination and conduct. During the sessions he had to be disciplined several times for using bad language.

Richmond is a large, clumsy, loose-jointed, bear-cub looking boy. When he first came to the gymnasium he was unable to dress and undress himself, but on account of the exigency of the occasion and the absence of anyone to help him, he soon acquired the art and at the end of the term was able to undress and dress himself completely without aid. He went regularly into the pool, but was so much afraid of the water that he made practically no progress in swimming.

Wilbur is another boy whose fear of the water prevented any great progress toward swimming. He preferred the shower bath to the pool whenever he had the opportunity of making a choice. His attention in the gymnasium and his co-ordination in the exercises are reported good. Great kindness of dis-

position showed itself in his attention to Oswald and Russell, the two smallest and most helpless boys of the group, who needed his help in dressing and undressing.

Henry, the boy who came in somewhat late, at first refused to go on the floor, but gradually began to take an interest in the gymnasium and in the games, and so finally was incorporated in the class as one of the good pupils. His diffidence extended also to the pool and it required some days before he found confidence enough to try the water, where he was able to make very little progress in learning to swim.

Morgan improved wonderfully in ability to concentrate his attention upon the commands of the instructor and upon the work in hand, and his co-ordination improved somewhat, but still remains poor. He never plucked up courage enough to go into the water, and though all efforts short of force were used, this was not resorted to because an epileptic seizure was possible. Morgan was one day characteristically twitted by Robert, the leader, who said to him, "You say you can swim, but you won't go in. Some time you will be on a big boat and when the boat goes down, saying you can swim won't save you, and you'll drown."

Russell also, on account of his pathological condition, was not compelled to enter the pool, as there was distinct danger of bringing on a hysterical attack.

In gymnasium work, however, he did very much better than was expected, considering his extremely inordinate and excitable condition.

Ernest, whose supine "goodness" is evident in every feature of his countenance, is reported as being less individualistic than any other of the boys. He seemed unable to pay attention to the commands or to the exercises, and was usually found dreaming away his time or drifting aimlessly from one thing to another. Neither the exercises nor the games claimed any large share of his interest, and he usually followed docilely the lead of the stronger characters. In the swimming pool he made his best showing and would have learned to swim had the class continued for a little longer time.

Abraham, a little dark-eyed, pale-faced Jewish boy, made more progress than probably any other boy of the class. At first he was so timid and nervous that he was unable to take his part in any games or exercises, but by close attention and application soon learned the movements, and at the end was able to play the games as well as any boy in the class.

Samuel's attention was very hard to get. In a game he became greatly excited and at first was unable to exercise any control whatever over his actions, but would spend his time rushing about in the baseball field to encourage his team-mates without really doing any-

thing. Gradually he improved in this respect and became a good player and good worker on the floor.

Robert took his place naturally as the leader of the boys. In all of its phases he took hold of the work and put into it more of the vim and vigor of a normal boy than any of the rest. He was universally obedient to the instructor and kind to the other boys, and his feeling of his relation to the group as well as his "gang" instinct manifested itself on day in the following way. One day Giovanni, a typical street urchin, swore a little more emphatically than usual over a stubborn shoe-lace that refused to find its proper hole. The instructor happened to overhear him and said, "If you ever talk like that again here, I'll wash out your mouth with soap." Then Robert volunteered, "That's what I keep telling him, but he talks that way all the time." "Don't tell him," replied the instructor, "but come and tell me and I'll attend to him." But Robert shook his head. "No, I couldn't do that. It's all right if you hear him, but I couldn't tell on him."

George, true to his inordinate love of self-glory and desire to attract attention by mischief if no other way presents itself, has given more trouble in gymnasium and swimming than any other boy. His inattention to the duty in hand was deliberate here, as everywhere else. He was usually ready to start a movement, but after the command was given would keep up with

the class only for three or four counts, when his roving eyes would be attracted by something else and his mind would begin to plan how he might detach himself from the group and show off. This inattention extended itself even to the games where most of the boys were completely absorbed. Unless he was closely watched he would leave the game and go off in a corner to try some feat by himself. His fear of the water was excessive, so much so that, in the absence of any fear of bad results on the part of the teachers, he was made to take his swimming lesson and was thrust under the shower bath by main force. He was characteristically careless about drying himself and would bundle hurriedly into his clothes half wet, unless compelled to wipe himself thoroughly.

Oswald, though he began the daily exercises, did not attend the gymnasium regularly on account of visits to the physician and on account of his physical condition as described in the previous notes. It was found to be inadvisable, on account of his lack of strength, to give him swimming lessons.

CHAPTER VI.

ROUND TABLE DISCUSSIONS WITH STUDENT OBSERVERS.

BY ELIZABETH E. FARRELL.

[EDITORIAL NOTE: During the first half of the summer session Miss Farrell met students taking the observation course once each week for formal discussion. For the most part the students themselves introduced the topics of discussion by asking questions. Miss Farrell's contributions to the round table were so helpful to students interested in the special class, that I have thought they would be of service to others, if published as a part of this volume. The discussions were reported by a stenographer, and the following transcriptions have been made from her notes. The text as given makes no attempt at rounding out the discussions into a chapter on method, nor at transforming the off-hand expressions of spontaneous discussion into more formal discourse. During the latter half of the session Miss Farrell met the students twice a day, and three times on Thursdays, for more informal discussion, but these conferences are not reported. L. W.]

July 13, 1911.

Miss Farrell, speaking to her observation class, said: We will limit the discussion to-day to manual training and physical training. The observation thus far has been of these two subjects.

We are doing intensively here what in New York City is done over an extended period of time. Take Mrs. Pfeiffer's class in New York for instance,—

the work which she would do with her fifteen children there throughout the year, she will do here in six weeks. The difference is that here we work with the children all the time. There, a class at the bench would be under direct supervision, while the other children would have occupation work of one kind or another. They would work at their own tasks and the teacher would inspect them when the lesson was over. While it is impossible in six weeks to do that kind of work, one teacher doing it all, it is possible for us, with three teachers, to show you the whole year's work in six weeks.

Q. What physical exercises do you consider most beneficial for children who are inclined to be round-shouldered?

Miss Farrell answered: The setting up exercises, and sitting up straight, with hands behind back, also hanging from a bar, any stretching exercises.

Q. What would you do for a case of infantile hemiplegia, where one leg is shorter than the other?

Miss Farrell said: The matter of corrective exercises ought to be under the direction of the orthopedic specialist. In New York City we have found that orthopedic specialists are willing and glad to see a child and prescribe corrective exercises. The thing to do is to get advice immediately from an orthopedic specialist, the advice of some man who knows about anatomy and physiology.

Q. Would you have as long a period for your manual training as you had this afternoon? In my class they lose interest so soon, they fatigue so quickly. Here you kept them at manual work for nearly an hour.

A. If all the children were doing the same thing, it would be impossible to keep them going for three-quarters of an hour. One boy would want to plane this, and another saw to this line. You couldn't get around to all. Start the little people on something they can control, then your time is for the children who have a harder problem. Let them work as long as they can. That's the trouble with these children,—their span of attention is so short. Our whole work must aim at building a longer and a longer span. If I can interest this child in working for ten minutes on something that previously he would not work on for five minutes, I can see he is improving. If you go into a class room and see everybody interested and everybody working, you know that it is right, fundamentally.

Study the material, study the kind of work you give. What are the interests upon which that work is based? Upon what instincts in the child do you base your work? If you get these two things right, the fatigue point is going to be pushed farther and farther along, and that's what we want to do.

Q. How large a group would you take for manual work?

A. The largest group here is six. That is large enough.

If I may take up the physical exercises now,—the physical training embraces three great types of work. For all the children we can use one type of work, based upon the principle of imitation. We can also take all of the children through work based on command and response. I need not work out here the psychological reasons for these groupings. A large group, as large as an individual teacher can keep track of, can be taken together for these two types of physical training. When you come to the third type, the one which is the great thing for work with backward children, the corrective work, the group must be small. We have small groups here, only two or three children going through the same exercises. All the work is definite and specially suited to the needs of the particular child. The question was raised before most of you came in, What corrective exercises do you consider best for these children? Unfortunately I am not an orthopedic surgeon, but I do depend upon and have the co-operation in my own town of great orthopedic surgeons. I recommend this same co-operation to you. Find some one who is willing and glad to tell you the orthopedic defects of each particular child, what he

needs, how to correct bad posture, how to lift one shoulder if there is lack of symmetry, how to correct a bad walk. I could give you some exercises for all these purposes, but it would be in exactly the same way as you would go out and buy a powder to cure a headache. That is all wrong. You want to get at the root of the thing. Get the co-operation of the best orthopedic surgeon in your town. Go with the child and be present at the examination, when the child is put on the table and gone over. In that way you will build up a body of knowledge which will help you to carry out his directions. It would be unwise for you to take any corrective exercises which you see here, and apply them without further definite information. Take, for example, a boy with one leg longer than the other. That condition may arise in different ways. You want to know the cause of it, quite as much as how to cure it. You are not to take any work of that kind except as an indicator. Find some one who knows more about it than you do, and take his directions.

These two types, the imitative, and the command-and-response work, form part of any good work with backward children. For these you may have as large a group as you can possibly attend to. With the third type you must have a small group in order that the work may be individual.

There are some rather important questions which

have not been asked yet: Is there any reason for the apportionment of manual training among the different children? Is there any reason for giving this boy basketry, and this boy wood-working? The answers to these questions are to be learned from a study of the child. Think what muscle groups are first used in life. That is the guiding principle of manual work. If you remember when you yourselves began to sew, when your little niece began to take hold of a needle, what came before that,—that will give you something to start with. How does the baby learn to use his muscles? When does a boy begin to want to use a saw or a hammer? He wasn't always interested in doing that, but why not? Those things are related to definite physiological and psychological facts. They concern the development of the great muscle groups which a child uses when he begins to develop his back and shoulders,—which he uses when he reaches out and kicks out,—those facts determine what kind of manual training is needed for backward children.

If it is true, as some people are now saying, that Dr. Stanley Hall was wrong when he put forth the theory of fundamental and accessory muscles, no matter. Let us hold to the principle which I have just stated, and follow the natural course of development of the child. Poorly co-ordinated children,—children who have no control over the finer muscles of their hands,—

must have the big thing to do with the big material. I sometimes visit classes where children are working with the sloyd knife and a thin slip of board. If you know the history and theory of the development of sloyd in Sweden, you know the place which it holds in that educational system. It comes at the top, not at the bottom of the school course. When we take the sloyd knife and thin lumber and give the children chip carving, we are giving them things which the Swedes know to be very difficult, a material difficult to handle, and a difficult tool to manipulate. The boy grows discouraged and throws his work away. Give the same boy a big saw and a heavy piece of lumber and he will go to work and get something out of it. It will have a very definite kind of educational value for him. Give him heavy materials, big tools, and ask him only for coarse, crude, unfinished work.

These statements contain the theory upon which the manual training work you have seen here is based. We give the poorly co-ordinated children the big things to do in a big way, and we give the better co-ordinated children the finer things.

Those of you who were present when the children formed on the floor for the physical training exercises last Thursday, have seen every exercise but one. We did steal a march on you once, but we didn't get anything done. Now what is the secret of the improve-

ment which is apparent in the formation on the floor? What was the trouble a week ago? on last Friday? The children did not know where to stand. They could not follow each other. Miss Walsh said, "Stand here," but they couldn't stand there. They didn't know where "here" was or how to get "here". With those seventeen children there was something inside their heads that was wrong. They weren't bad, they wanted to do, but they couldn't. When Miss Walsh said to little Morgan, "You stand on this spot," he hadn't the remotest idea how to get on this spot and stay there. They all meant to do it, but they didn't know how. Look at these ropes. They are made of plaited raffia. The first time they were used, the four children in front held this. They could understand that this was a blue line and all the blue people were here. This one we called red; all the red people held this rope. And the same way with the white one. They were all in their places, and those were the things which got them to do it. It was of no use to say to these children, Now you are a leader and you stand here, and you follow him,—they simply couldn't do it, until we gave them the rope to hold.

Dr. Holmes remarked: We can't show you what Miss Farrell has done with these children. We can't pin up her work with them on the screen. Her work has gone home, inside the children.

Miss Farrell resumed, in explanation of this idea: Can you see what these ropes did for the children? They made the thing concrete. The child had something in his hand. He felt it, he could see the color, and he knew that other children had hold of the same thing. That is what made him get in line. Perhaps a week from to-night you will see that the children are able to form on the floor without these ropes. That is growth, and it is something that you cannot put up on the screen. It is something inside the children, and their ability has been organized to that extent. To-night it is dependent upon this, but a week from to-night it may not be dependent upon this.

Manual training is only something to hang on to. We don't want manual training for these children; we want co-ordination. If you know anything better than manual training to develop co-ordination, you ought to use it. I would put every thing the child makes on the screen, I would let it be his own work, I would put it up for my own encouragement. It is perfectly marvelous from day to day to see the improvement in the children. And I think we discount the feeling that we know the children better. Get some of the work that each child does at the beginning of the school term. Keep it and look at it six months hence. If it is better, yours is the credit, and if it is worse, yours in all probability is the fault.

It will be a measure of your ability to do this kind of teaching. How long would I keep his first work? I would keep it until he graduates.

We in New York have another habit. At the end of the school year we mount the work of each child in a chart. Not all the work, and not carefully selected work. If you save a paper every Friday, or every Monday, you will have work enough to show progress. Think how proud the boy himself will be! It is the best kind of inspiration for the child, for the teacher, and for the parent. Because progress is slow, parents are impatient, but if you can "show them the goods" they will be satisfied.

I wouldn't let a child dawdle all day over a block like this one on the screen. I would call it finished, just as Mrs. Pfeiffer called Russell's block finished. Abraham is like Russell in age and in power to talk, but he is a little better in co-ordination. In a given time Abe can do this, and Russell can do that. It is a measure for each child. Even though the work is not finished, it shows the ability of these boys to do work in a given time, and that you need for your own encouragement as the year progresses. But there are some interesting questions about the manual training work which seem to be getting away from us.

Q. To-day I noticed little Samuel, who only yesterday learned how to hold a saw, come forward and

correct another child who was having trouble with it. This shows so much improvement, and such a good spirit,—don't you think so?

A. That is not as good as it seems, if it was Samuel who did the correcting. That is Samuel's propensity,—he wants to correct everybody.

Q. I observed some of the boys using the file. Why was that?

Mrs. Pfeiffer answered: I wouldn't use the file at all for a normal child. I only used it for the motion. You see, the big planes had gone back, and the small ones hadn't come yet, and one of the boys asked if he mightn't use the file. The motion, back and forth, is about the same, so I let them use it. Speaking in terms of physical co-ordination, the file is just as good for the boy of poor co-ordination as the plane.

Miss Farrell resumed: Every boy loves to pound nails. Give him a hammer and a nail and a piece of wood, and you have done it all. There is the thing he is interested in, and to be allowed to do it! What joy! Keep that in mind. You want to appeal to the thing which is natural for that child. Find out what the child ought to be doing at his age, what are the things he should be interested in. I have seen boys in the city who collected literally bushels of rubbish. But think what it was they were doing. They were collecting! Wherever they were, in school and out of

school, they were collecting. They were bringing in handles of broken cups, and old wheels, and pieces of straw. They weren't interested in postage stamps, for they never got a letter, but they were interested in a bright, shiny piece of brass that they could rub on their cheek. And it all led somewhere. It was a long time leading, but it led somewhere. Under the teacher's direction these boys made a tray, with divisions, and put things of rubber here, and iron here, and so on. Think of the body of knowledge they were accumulating about these things! There was something fundamental in that teacher's mind when she said, "Let's collect."

Q. Do you think Robert is incorrigible?

A. Has he given any evidence of incorrigibility?

Q. Well, he seems to get into trouble.

A. Then is he incorrigible, or highly suggestible?

Q. I think he is of the type which is likely to become incorrigible. He seems to be hard to control.

A. The conditions here were not quite normal to-day. The children were delayed in returning from the rest room. Like any other boy, Robert was finding something to do by teasing the rest. I have never seen an incorrigible boy. I question whether there is such a thing as an incorrigible boy. There are stupid teachers who dub these children incorrigible, but I believe if we were teachers in truth as well as

in word of mouth, we would not find so many incorrigible. If we stop to consider the influence of digestion, for only one thing, upon goodness and badness, we would give them castor oil occasionally, and the incorrigibility would disappear. I hope that you twenty women will go out and believe one thing,—that young life at bottom is good, and bad boys are made by teachers who are bad and seldom in any other way. I know you have to face the questions of home influence, of slum environment, and bad food, but there are ways to cope with all these. There are charity organization societies, church clubs and associations, and a thousand other ways to save a boy, like little Russell, who may not be worth the trouble, but whom we are going to save.

Q. Do you consider Robert mentally defective?

A. His co-ordination is not as good as it should be; he has this speech defect. I believe if his speech defect could be overcome, that his awakening would be marvelous. With decent expression,—vocal expression,—he might wake up tremendously. I am thinking of Robert's general intelligence, of his ability to express himself in written English. He can read very well. He can write sentences like, "I live in Germantown," "My house has twelve rooms in it." This seems elementary, but he can do it correctly.

I would suggest that in your observation work,

you keep these two ideas in mind: Upon what in the child's life, upon what instinct in the child is this work based? First, what is the appeal, and secondly, why this appeal? Express in psychological terms the meaning of what you see. While it will be nice to go away from here knowing a good many different things to do, yet I think that people enthusiastic enough to come to Philadelphia for a summer school ought to go back as missionaries and know the psychological meaning of the whole thing. This work, if interpreted in every case in terms of psychology as you learn it, will give you a foundation upon which to work out your own methods. No one person knows all there is to know. No one person knows all the ways of doing things. While what you see here will help you and point out next year's path, the thing to do is to build on a sure foundation, upon an accurate knowledge of how the mind develops. In training a child's mind you want to know what to train towards, and don't go against that. Use all there is there, and use it to the best advantage, and some day the result will come.

(After the meeting was adjourned, Miss Farrell told how she had managed one "incorrigible" boy. He had a passion for breaking things, and a desire to throw stones. She had the janitor bring up a large pane of glass, and some stones. She set the glass up

against the wall, and told the boy to throw stones at it as much as he liked. In this way she gratified his natural instinct to throw and to destroy something, and did it in a way which diverted this instinct into a harmless channel. Having broken the glass, he was ready to be interested in something else.)

Friday, July 14, 1911.

Dr. Holmes and Miss Farrell called a meeting of the students who had volunteered to assist in serving the children's luncheon, for the purpose of explaining the principles which underlie this part of the training.

Dr. Holmes spoke first, and said in substance: The reason we are serving luncheon to the children is in the first place to build them up physically, to feed their bodies, including their brains. In the second place, we are teaching them to set a table, to eat from plates, and to handle a knife and fork and spoon. These are concrete things. Some children can be taught only these things. Some feeble-minded children can be taught to set a table and do other domestic work, when they can't be taught anything else, can't be taught reading or writing or arithmetic. But we are not primarily concerned with training girls for domestic service. That is a fine thing in itself, but it is not our object. We are training their minds, developing their intellects by teaching them to use their hands

and to obey commands. Some children have to be taught this way first, and later on, when they have begun to learn, they can be taught other things, like reading and writing and arithmetic.

It is a fundamental principle of pedagogy, to proceed from the concrete to the abstract, but most teachers never grasp this idea. They jump at once to the abstract. Now a normal child will stand a good deal of bad teaching, and may learn in spite of it. There is nothing essentially different between the kind of pedagogy which a backward child needs and the kind a normal child needs. What is good for the backward child is good for the normal child. Proceed from the concrete to the abstract. When we are teaching these children table manners, to handle a spoon properly, to say "Yes, ma'am," and "No, ma'am," and "Please," we are teaching them something concrete, and are developing them intellectually just as when we give them manual training or teach them to march in line by holding on to a rope.

There is too much abstraction in the ordinary school room. There is nothing in the world so abstract as the figure one. If you teachers will spend your leisure time of evenings for the next six months in bringing your minds to bear on the question of what is abstract and what is concrete, and how to proceed from the concrete to the abstract, then you will be able to begin

good teaching. You will not have to go to magazines to find out what other teachers are doing and copy that. You will be able to study your children and do work with them which other people will discover is new and original, and they will come to *you* to learn how you do it.

Have I expressed your idea, Miss Farrell?

Miss Farrell rose and said, Yes, I think you have said it exactly, Professor Holmes. I think you will have to think it over, many and many dark winter nights, before you know that what Professor Holmes says is the point. I am always fond of going back to a little baby. If you have a baby in your home, or in the neighborhood, a baby will teach you more than you can learn in any other way. A baby develops in a certain way, and in that way these children must develop.

I know that if I can see the direct application of what I am doing and what I am going to do, I can make something out of that. I want to show you what can be done in your own classes in feeding the children. I am going to ask Mrs. Bryant, who has charge of providing the luncheon, to tell you about it.

Mrs. Bryant said: This class is unusually well endowed. We can spend fifteen cents on each child every day. This is about five times what you can usually spend. Three cents is the cost of the most

elaborate luncheon which is being served in the public schools. For three cents they are able to give a bowl of soup, or heavy broth of some kind, and two slices of bread and butter. Sometimes they have to leave out the butter, according to the price. The broth is as a rule not made of meat, but of peas or beans with rice in it. Peas and beans are the only vegetables that contain a sufficient amount of tissue-building stuff. Meat extracts are chiefly used for flavoring, but they cannot form tissue and bone, and they are expensive. The extractives contain the tonic elements and the taste.

Another kind of food is bread and milk. Here in Philadelphia they can give bread and milk, or shredded wheat with milk, a sufficient quantity to make a good lunch, for three cents. The most elaborate lunch on record for three cents is that given in the Bradford schools, in England. There they get a piece of meat-pie, with a dish of peas, bread, and sometimes a dessert—rolypoly, or cake, or buns. The only reason they can do it for three cents is that they have equipment for serving ten thousand meals a day. In New York the lunches cost three or four cents, including the cost of the woman to wash up, but not including the cost of supervision.

If you are going to give a lunch every day, the cheapest and best thing would be shredded wheat and milk.

It would not require preparation, but would give something for the children to do, to break up the shredded wheat. It would not be too hard on the children. Or you can give four or five graham crackers and three-fourths of a glass of milk for three cents. I am speaking now of the wholesale prices, of course. You could give them three-fourths of a glass of milk and a whole shredded wheat biscuit for three cents.

Other combinations are boiled rice with stewed fruit poured over it. For a penny you can give a cup of rice with stewed fruit. They do that in the Philadelphia schools, where they have penny lunches.

The schools in Boston and some here give a light lunch at 10 o'clock. This is not a substitute for a home meal, but simply a "snack". A quarter of a cup of milk and two crackers for one cent are given in Boston.

Of course you have to look out for national prejudices and race prejudices. In one district in New York they had to have a meat dish. The children there would not touch macaroni or anything made with oil. They could not, however, serve it on Friday.

You will not find anything made with beans or peas here, because they are not easily digested. And we don't use tomatoes for children. Grown people like them, but children seldom do. They contain very little but water, some salts, and flavoring. Macaroni

with chopped or grated cheese is about as cheap as anything you can get.

Here we are trying to give a lunch which is equal to one-half of what these children need for a whole day. They are getting enough bread, and enough meat of some kind, with butter. Some of the children are getting more than that because some of them get more to eat at home than others. I don't think many of them are very well fed. The bulk of the food here is milk, bread, ice-cream, and butter. To-day they had a lettuce sandwich with mayonnaise. That has as high a food value as a plate of stew, on account of the oil in the mayonnaise, and the extra butter. Yesterday they had creamed beef and baked potato. Creamed beef with the sauce costs the restaurant people four cents. The two slices of bread and butter cost two cents. The milk costs two or two and one-half cents; the ice-cream costs two and one-half cents, and that makes up the ten cents.

Miss Farrell resumed control of the session, saying: Every phase of the work you see here can be done in your own town with just the conditions that prevail there, and with very little cost. Shall I tell you how we started it in New York? We have domestic science, (cooking) rooms in the city schools. It was suggested, "Why not make a whole tableful of macaroni for this class? They are Italians. Let the girls cook the

macaroni and then we will eat it." This was the first school luncheon in New York City. That is one way to begin.

Now when you try to start school lunches in your home town, you are going to come up against a stone wall. You are "taking away parental responsibility." But try this way,—say to your class, "Bring a piece of bread to-morrow," and if your experience is like mine, they won't bring the bread. They won't have it. These people live literally from hand to mouth. When they want bread for supper they have to wait until they send to the corner store for it. It will be a real obligation for many of these mothers to have a slice of bread ready for the boy to take to school. But keep at it. It is worth while. It is real teaching.

The school lunches now are given under the auspices of the New York School Lunch Committee. They are quite different, and attack the problem from quite a different angle. They have found that there must be a committee to look after the feeding of these children, and to observe the results.

The forces of the school should all work toward the same end. In Chicago the boys in a big school spent several months making fireless cookers. The lunch for to-morrow is being cooked in those fireless cookers to-day.

The work which you have to do next concerns the

service of the luncheon. The hardest thing you have to do is to keep your hands off, just sit down and see that the children do it. Don't let it get on your nerve. Never mind if it takes two hours, let them do it themselves. We are here to see it done, and if it takes until to-morrow for Flora to get the table square, why, we will wait until to-morrow. Next week, from quarter of twelve to quarter past twelve, the first student will attend; the second person will come on from one until half past one to look after the clearing up. You will get experience that is valuable, and you won't be giving too much time to it. You cannot learn it all in a day. The mistakes that the children make will help you in other lines of work. Don't be beguiled into putting your hands on them. Don't let it get on your nerve, because the truest thing anybody ever said is, "We learn to do by doing." You can't keep people from making their own mistakes.

July 20, 1911.

As the class assembled for the second formal round table Miss Farell said: I think the value of these meetings lies entirely in the amount of discussion which they open up. Now you have seen during the past week two of the most interesting pieces of work that we do in special classes, and unless that work has suggested hundreds of questions, I feel that we have

failed. Perhaps you think, as one teacher thought who was here last week, that she was expected to criticise what she saw. Remember, there are two kinds of criticism, destructive and constructive. We want both kinds of criticism from you. The thought that you don't know how to use the saw yourself need not interfere at all with your asking questions. You are not interested and I am not interested now in the technical use of the saw. We are only interested in why we give a saw to a child. If you say over and over again, "Why did you do that, why didn't you do this?" you are getting something out of your observation work. That's the kind of thing that is going to make it worth while to you.

Consider the sense training we have been doing. When you get back to your different towns and try to put in this sense training, you will be swamped,—absolutely, literally swamped. You want to know why we do this, why we do that, and what we do first. Is there any difference between the work you offer to this child, and to the other one, and why do you offer it?

I have a series of questions here which I will keep until later. Now what has been suggested to you, or what question has come into your mind as the result of any one thing you have seen this week?

Q. Do you have this sense training every day?

A. Not every day. Now I will ask you, why do we have lessons in sense training?

Another student answered, To train the attention.

A. Yes, but we might do that in other ways. Why do we give sense training? *To train the senses!* If you know Seguin's book, you know that in every feeble-minded child there is some potentiality of normality. The difference is a difference of degree and not of kind. The child has it in him to grow, to blossom. A normal child blossoms. Whether or not Dr. Seguin was right, doesn't concern us. What does concern us is that these children are living in the world. They are interested in certain affairs at home. They are, or should be, familiar with certain odors, with certain sights and sounds and touch impressions. The teacher of a backward child must determine just what the content of his little brain is. How many years a child may eat sugar, and never use the word *sweet!* How many years these children have used vinegar at home, and never used the word *sour!* They may know the word *vinegar*, but not the word *sour*. And the same with bitter. Now we want the discrimination, and we want the word that name the discrimination. That, in a few words, is the reason for sense training, and the length of time it continues depends entirely upon the child.

In this work you will begin with the strikingly dif-

ferent sensations. You will not give him gradations of sweetness, for instance, or gradations of the same tone. Give him touch *with* motion, and let him get the idea of coarseness. In this work you want the opportunities for large discriminations, particularly when the work is elementary.

Q. Take Russell, what senses are you training now?

A. All of them, to some extent, particularly touch, and taste, and smell. I would not ever, with any child, train one sense at the expense of the others. Russell will have work in all lines. You have seen him in physical training. You have seen him in manual training. You have seen him in corrective gymnastics. You have seen him in beginning reading, which combines most of these things. Russell is getting everything in this work that any other child gets. Here again it is a difference of degree and not of kind in the matter of training.

When I tell you that out of the first small class for backward children in the city of New York have grown the problem of immigration and hundreds of other problems,—that out of the question of decent work for special classes for backward children, have grown classes for crippled children, for the blind, for the deaf, for the anæmic, for the tubercular,—you will see what an immensely important matter it is. Think what a relief it would be for you, if you could

take all the anæmic children out of your class and put them into one place and give them work suited to them. The whole question is one of close classification, to get all the children in the right place.

Instead of making the child fit the conditions, we must make conditions fit him. Instead of making the child fit the school, we must make the school fit the child. Then we won't have truants. We won't have juvenile criminals. We will have fewer loafers, and tramps, and criminals, and bad citizens in the community. If you will go back to your home town and make the community see that it is worth while to take these things into account, that it will save them money to provide for special classes, then they will listen to you.

Q. I regret so much that I often have to neglect my best pupils, while giving time to the duller ones. Does this harm them?

A. I hardly think it would. It means loss of opportunity, but no positive injury. The bright boy will find expression. There is no trick in teaching a bright child. They learn in spite of us. The schools do nothing for them. No, in the case of your children, there would be no pathological retardation. There would be, however, loss of opportunity.

In New York we have special classes for bright children, where they will do three terms' work in two terms,

giving them a chance to go ahead as fast as they can go. That again is coming as a result of these special classes. The argument which will reach school boards and men of affairs is that of economy, "See what you are losing. These are the children who are going to be the leaders of the next generation, and they are being neglected because I have to give my time to the others."

Q. Does Miss Walsh have any particular method of teaching articulation, except infinite patience?

A. Yes. In the beginning the mechanism of voice is the particular thing aimed for.

Q. Is that the same thing as phonetics?

A. Not in the way phonetics are generally taught. That is not of much use. You will have to consider what Dr. Stanley Hall calls "tongue gymnastics". You have to show the children *how* to make the sounds. Flora cannot say *l*; she cannot say *lo*, she says *wo*. All the patience in the world wouldn't do any good unless Flora is enabled to put her tongue back of the teeth to say *lo*. The best way to get the articulation work is to visit the schools for the deaf, not where they use the manual alphabet, but where they teach by the oral method. There are several books that will help you. I never hesitate to recommend Miss Sullivan's book on Helen Keller,—see the infinite patience, and the thousand and one ways she found to present the

same fact. I would also read Howe's book on Laura Bridgeman, to get some idea of his point of view.

You want to study first, the anatomy and physiology of the vocal organs. You will have to know the mechanism of voice. Visit schools for deaf-mutes, and this will be enough and more than enough to work on next year. There is, of course, a sequence in the way tones are taken up. You will find this set forth in several books.

We will take up the question of articulation, however, after the observation in that subject. I am a little surprised that you have not spoken of the reading. What do you think of the reading for that little group? I don't care so much,—Miss Walsh doesn't care so much about the work, but we want to know whether you would do it, and why. We are only showing you how it would be done if we made such a mistake as to try to teach those children to read. Now it is wrong, absolutely wrong, genetically wrong, to teach those children to read, with the exception of Henry, and Susan, and perhaps Abraham. We would leave out Oswald and Russell, and Clara, and Flora, these four children whom we would not teach to read now, perhaps never. I don't know where you are ever going to get with it. It is a question of value. I believe that with any child it is wrong to teach reading unless you can give him a love for reading, a desire to read. Now with

Russell that can never be done. He isn't going to live with books.

Personally, I think we have an entirely wrong notion of education. I think that what you saw here this afternoon,—the children laughing, and playing, and marching to music,—that is education. They are having a good time, and they are learning to live in the world. Those children ought to be doing big things in a big way. They ought to be getting sense impressions every day, and in order to get sense impressions they must not have too fine discriminations presented to them; they ought not to be required to use the finer muscles of the eyes and the fingers. Think of the age man was when he began to wrestle with the printed page! I don't know about your ancestors, but I can look back to mine,—strong, able-bodied men, who worked hard with their hands. It is only in very recent years that we have got all tied up in this matter of reading and writing and number, and whether or not we will achieve a product that is better than our forefathers, is a question.

With these little people, handicapped in mind and body, I think it is wrong to ask them to manipulate those organs and muscles which have developed late in the history of human kind. To use those muscles of the eye which discriminate the "hen-tracks" on the printed page, is to make a fine and difficult

discrimination. But what about the parents? The parents want their children to be taught to read and write. They don't like to think that there is anything wrong with their children,—that they are different from other children in any way. Well, that is true on superficial acquaintance. But when you get the mother's confidence, she will tell you that James was four years old before he began to walk, and six years old before he began to talk. You see then that he is five years behind his age. If the parents see that you know more about the child than they do, if you can interpret the child's history in terms of the kind of school work he wants, they will trust you. If you say, "But he is such an interesting boy. He doesn't do things as other boys do. What kind of a baby was he?" the mother will have to tell you. Not that she wants to tell all his shortcomings, but she will tell you.

Give them all the books they want, all they can carry home, but at the same time, my school work would be the work I knew that the child needed. The school teaching of the future is going to be as much specialized and as much based upon anatomy and physiology as medicine is to-day. We shall have to know anatomy, and physiology, and psychology. The reason people here in this laboratory get the information is because the parents have confidence in them, because they say right away, "This man is a psychologist. He

knows." You have to get the same thing in the attitude of the parents toward you, and then you can do as you like with them.

Don't misunderstand me. I pick out of *all* the children here, those four that Miss Walsh has, and say, "I wouldn't teach them to read." I would give Russell a saw or a shovel, and let him go out and do things. The rest I would teach to read. I would let every child have every bit of training he can get.

Q. Can you recommend some books on gymnastics?

A. Dr. Mackenzie has a book on gymnastics, and Dr. Gulick, and Miss Bancroft, of New York, has several books.

Q. How long would you keep up exercises like walking through the ladder? Would you keep it up after the children can do it?

A. Yes. There is fun in it. It is one of the simplest exercises for gait. It makes a child pick up his feet.

Q. What would you do if you were not successful in sense training?

A. If a child doesn't discriminate well in the sense training, there is only one thing to do, and that is to make the difference greater and greater.

I would recommend everybody here to take a course in laboratory psychology. Get the children to make these discriminations, sweet, sour, and bitter, and get them to name them. Keep right at it,—to-morrow

and the next day and the next day. Usually if you ask, "Did you ever taste it before? Do you ever have to take medicine? How does it taste?" the child will say "bitter". The substance to-day was bitter,—it happened to be quinine. Of course there comes a time when, if after a good fair chance he doesn't say "bitter," you will have to tell him, for he simply doesn't know.

Q. What things would you use for sense training?

A. I would use the simple things around him in the home. I would not take strange things. He might know odors of flowers, or he might not. But he would know the odor of coffee, and kerosene, and probably peppermint. And so with the familiar sights and sounds.

In the sense training there is a sequence. I am surprised that nobody has remarked a sequence in the exercises that we have had this week. To-morrow we will take vision. There is a sequence in the way the senses develop, and in all sense training you must follow that sequence. The sense that develops first is more primitive, has more back of it, than the ones which develop later, as sight and hearing.

After all is said and done, we must train these children in the natural way, and we fail only when we go about it in the artificial way, the way men have arranged that children shall be taught. They have said, We must teach all children six years old to read,

all children twelve years old to speak French, and so on. The only thing for you to do is to cut loose and bring all the science you have at your command to bear on this problem in a scientific way. There is a natural way in which children develop, and you want to find it, and follow that way.

Q. How do you account for the change in Morgan?

A. For one thing he knows us better, and for another thing we know him better, and that's all there is to it. We are all very fond of him. Morgan has a good deal of sense. You can't flatter him. When he showed me his basket he said, "It isn't very good, is it?" I said, "It's pretty good." He said, "Naw, it isn't any good at all." Mrs. Pfeiffer went down town yesterday to get reed heavy enough so that he could not make a mistake. That basket is a very good picture of Morgan. Now with the heavier material, plus the experience of making the first basket, he will do better.

Q. What is the value of breathing exercises before oral reading?

A. It is a matter of voice. Have you noticed how many monotones we have in this class? To do away with these monotones we are giving the children voice placing. You have heard Mrs. Pfeiffer bring them from middle C to the octave. We can't do very much in six weeks, but we can show you how the thing is to be done. You notice I said "oral reading". Oral reading

is quite a different thing from reading. Silent reading is a very good thing for these children. But oral reading is reading plus expression.

The production of voice is the chief thing to be considered in oral reading. You must have voice production under control, and that means that the breathing must be under control. It must be from the diaphragm. That is why we give the children breathing exercises. I wouldn't let them hold the breath too long. It is likely to strain the heart. You see again, you can't know too much physiology in this work.

Really, whatever psychologists say, we school teachers are at the top. We are the apex of the whole thing, because we must have all these sciences at our command before we can train these minds in the right way.

July 27, 1911.

Miss Farrell opened her round table conference by saying: Now what are the questions to-day relating to the work with clay? You have seen clay work, as well as articulation exercises.

Q. I am sorry I have not been able to see any of the clay. How do you begin?

A. We begin with the plaque, smoothing the clay out flat. Next we trace the outline of a leaf on the plaque. This gives precision of movement, and it

demands concentration. When the clay was offered the children framed up a plaque. Then they put a leaf on it which they had picked up on the grass, and went around it with a tooth pick. The thing was to put the tooth pick down just at the edge of the leaf. That is concrete. That exercise was given for the sake of the precision in movement that was required of the child. If you will look at the work on the table you will see in very many cases the child needed this training in precision.

You will remember, of course, that we have given this work for you. When you see us working with clay in the flat one day and in the round the next, and the next day yet another type of work, I want you to remember that it is for *you*, to show you the sequence, not because it is best for the child. If we considered only the child's good, we would spend a great deal more time on each step. In your own classes you will take a longer time to do the plaque work. You cannot do it in a day. Nor would you be satisfied with one lesson in the round. You would have many lessons. The work shown this week should extend over a whole term, consisting of five months. Our children must have many lessons with the clay which require precision and delicacy of touch.

Q. Could the mixing up of the clay be done by the teacher?

A. Yes, it is only because we have so many men about here that we have it done for us. In New York the janitors do it.

Q. What particular kind of clay do you use?

A. Clay flour. It can be bought at Milton Bradley's. Never use clay the second time; this for hygienic reasons. Throw everything away that is left over. There is now, for rich people to buy, a prepared clay, which is the nicest to use. It costs twenty-five cents a pound.

Q. Do you mean Plasticine?

A. No, I mean prepared clay. Plasticine never hardens, and so cannot be preserved. The child likes to do clay modelling, but it's just the doing of it that he likes,—it is good fun. In these little paper-weights the leaf has been colored green and the whole thing shellacked over to make it more permanent.

I think that of all the materials for manual work clay offers the greatest opportunity. When Russell could not saw to a line, he could model a ball. He could not make a beaker this afternoon, but he could make, as he said, a lot of potatoes. I like the clay very much for what it does for the children. They have to get a certain precision in their touch, and a certain delicacy in their fingers to model. And how near it is to the interests of the young child! Notice a child in the country, sitting beside the road, making mud-pies.

These children of ours are really very young, no matter how long they have lived.

Dr. Holmes remarked: Clay is good for another reason. There is something final in sawing to a line, but clay gives the child another chance, and another, and another.

Miss Farrell agreed, and continued: You have seen the children working at the sand tray, packing the sand into little dishes and turning it out. Some of the children could not even do that at first. They packed it in too loosely, but they could try again and again. If you don't mind having sand on the floor, the sand tray is a very good thing.

Q. Isn't it remarkable, how well these children model?

A. Yes, they do very well, particularly in the Indian pottery. The thing which interests me very much in teaching this work is the principle of correlation, letting one thing grow out of another and everything out of the natural interests of the child. You will find that the children can make very presentable Indian bowls, color them and put Indian designs on them. See that cup! It is quite as good as one that you would bring all the way from Arizona and prize very much. Unfortunately, we can't find a kiln in New York City where they bake this kind of clay. The thing is to have a kiln in the school, where you can bake the pottery.

That adds greatly to the interest of the boys in their work. At Montclair they have such a kiln. They are expensive, they have to be built in, and somebody has to run them. The heat is supplied by kerosene, which drops in, a drop at a time, and somebody has to watch it. It is dangerous, as well as expensive.

We have not yet taken up the coil work in clay. That is a type of work we are going to begin to-morrow. This bowl was a perfectly flat piece, and the idea was to work it up in this fashion. Some of them made a ball and tried to hollow it out, but the idea was to work it up from a flat piece. Sculpture of any kind is not taking out; it is putting on. A man modelling a portrait head does not take out the shadows, he simply builds up the lights. We don't want the children to dig the clay out, but to get the result by evening up and modelling the thing. This type of work calls for a kind of co-ordination and a kind of imagination that the other doesn't. Most of the children did make a ball first, but that was not the intention at all in these hollow round objects.

The children should have the opportunity to do free work in the clay. To-day they made these things for the play house. This cup isn't half bad. You could go to a museum and rave for ten minutes over an Indian cup not a bit better than that. This carrot will be colored with water colors and shellacked.

Little Abraham made it. He hasn't had much of an opportunity in anything, but he is a very smart little boy. He is startling Dr. Twitmyer and everybody else. They would not have believed that he had it in him. Abraham has skill in modelling, which is unusual for a Russian. I thought that Giovanni and his brother, who is visiting to-day, would do this work very well because they are Italians, but they didn't. In New York the Italian children do this work very well. But all Vanni could make was a ball, and his brother could not make even that. I never saw children use clay and be as clean about it as these children have been. You won't get anything like the same result.

To-day there were two classes of objects given. These, which would group themselves rather closely, are the round ones. The higher grade children were given the elliptical objects, and the less capable children, the round. These things the children knew, and they were easy to obtain. That was the only purpose in selecting them.

Q. Do you ever make type forms?

A. I never do that. That is a fallacy. There was a time when people thought we were crazy to give children dolls' houses to make, for it is well known that children of that age can't plane or saw to a line. But we don't care about the line. What we are interested in is the child. The same shifting of the viewpoint

is to be seen all through the schools. We have passed from technique to the child who says he "wants to make something next." We don't care how many mistakes he makes. A gentleman this morning said he was glad to see a teacher who would stand for such crude work as that. That is the highest kind of compliment. You have gone to school exhibits and seen work which you *know* couldn't have been done by the children. Everything you see here is crude enough to convince you that the child did it.

After all, we learn to do by doing, and we do not learn in any other way. When you give children type forms to make in clay, you give them something formal and far removed from life. If you really wanted to give them a prism, it would be better to say, "Let's make a chimney." You would get all the good of modelling a prism, and you would have the interest of the children. Take the child's interest as the point of departure. Let him do the thing he is interested in.

Q. Would you only take two children at a time for articulation, or more, or how many?

A. If you had twenty, and they all needed the same work you could have a large group. You have to group according to the defects to be corrected. For example, there is no reason in the world why you could not group children who have trouble with the initial letters together, and give exercises on the initials. Then if

you had the good luck to have all the rest of the children with defects at the other end of the word, you could group them. The ideal thing is individual work, for what we are trying to do in articulation is to uproot bad habits and plant good ones. I would give them all phonic work, but the formal articulation work I would give only to the children who need it.

Q. If you had children whom you could not teach to read, and they spoke indistinctly, would you give them articulation?

A. Yes, I would give every child who is going to be in school,—every child with a speech defect,—I would give him a chance to get good articulation. Now where the defect is inside his head, and you can't get at it, I wouldn't spend time on that. Russell, of course, is an institutional case. Flora is a middle grade imbecile. Miss Walsh would not bother with them. I suppose Flora will say *wo* instead of *lo* to the end of her life. You can't do anything with them.

Q. One of the boys, I notice, could not tell red or green. Do you think any amount of training could bring that about?

A. Oh, yes. He could learn that because he is not color blind. That boy is really a hopeful case for a special class. He is really worth while. The matter of not telling color is not so important, if he can match it. In the color work there are two things to keep in mind,—

can he match color? can he name it? A child who can match color is going to get the thing right.

Q. Would you give as much time to training all the senses, the sense of sight as of touch, for example?

A. I can't say how much time I would give to any line of training. It would all depend on the child.

Q. Don't we use the sense of sight more in getting our knowledge of the external world?

A. Some persons do. After they come to a certain point, all normal persons do. But when you remember what the psychologists tell us, that all knowledge is the building up of the sense of touch, that without touch we would never have a sense of form, that vision alone never determines form, we see that this holds an idea for teachers of defective children. If they can't get knowledge through the eye, then they must get it through the sense of touch. I think if all teachers knew more about how the race has developed up to the point where it now stands, we would know more about teaching. Think of the thousands of years we did not depend on sight. Think of the Indian, who can tell by laying his ear to the ground whether a horse or a man is coming, miles away. Indeed, our whole human brain is the result of the development of the hand. This morning I was saying that the exercise on the ladder is not for the purpose of making the child draw himself up; we give the exercise to afford the

child an opportunity to oppose his fingers. Those of you who think in biological terms will remember that a great epoch in the history of man was marked when our simian ancestors opposed the thumb to the fingers and so were able to grasp. Why does a little baby tip over so many glasses of milk? Because he has not learned to grasp. Notice the first young child you see,—that's the thing to hold to. In this exercise we want to cultivate the power of grasp. It is just as fundamental as the sense of touch, and it goes so far into the making of the human brain that we ought never to neglect it. I don't know whether Miss Walsh, when she was getting the children to keep their places by holding on to the ropes, thought of this, but it came into my mind that there is the same grasp, the opposing of the thumb and the fingers again.

Q. Is there any good book about handicrafts?

A. A good book is Miss Dopp's "The Place of Industry in Education."

A student remarked, referring to the fundamental nature of the sense of touch: I know a blind woman, who has been blind since she was a baby, who can fry eggs without burning them, and go about her pantry and keep everything in order, and she says she does it by the sense of feeling.

Miss Farrell continued: If you read Dr. Drummond's book on "The Ascent of Man," you will begin to appre-

ciate the countless generations we have been coming up from the worm to the point where we are now, and the changes that have been wrought since the day of the worm until we are as well organized as we are now. Add to your list John Fiske's book for suggestions on the same line. Those of you who have not read Darwin's great book on the "Origin of Species," read it with this idea in mind, and Huxley's books,—any of the great books on evolution. You don't have to believe all that is in them, but you want to get their point of view. The sense of grasp is one thing to be traced out, hearing is another, taste and smell are others. Then you have the thing right in the palm of your hand. That's what you must do for these children. You must give them the opportunities. Most children have the opportunities for development in themselves, but these children have to have the opportunities made for them.

Think how old the human race was before it began to wrestle with little black and white specks on paper! Think when printing was invented. So far as we know, men in the fourteenth century were as highly developed as we are now, yet the great mass of the people were not so well educated. They did not have access to books. It was not until after the invention of printing that the common people had any use for the finer muscles of the eye. What are four hundred years? They are

as yesterday, and we teachers are forgetting that when we ask children to read books. We are asking them to use the finest co-ordinations and those most recently acquired in the history of man. That may be well enough for normally organized children, not for ours,—they cannot do things so well, and they can't finish them neatly. They have to use the large, crude movements. They have to do the things that primitive man did, and do them in a primitive way. We can't ask them to use the finer co-ordinations of more highly developed people. That is the great reason for throwing the school books out of the window. You can't always do it. We can't do it in New York. But I believe it is the thing to do. Give children the things to do which are fundamental to the whole human race. Give them the opportunity for touching, for smelling a variety of things, for tasting a variety of things. When it comes to sight, give them color, light and darkness. Give them a chance to see the big things of color, and don't bring them to the finer co-ordinations of using a text-book until you have taught them through these grosser co-ordinations hundreds and hundreds of times.

Q. Is abdominal breathing the breathing for children?

Mrs. Pfeiffer answered: To get the diaphragmatic breathing is what we are after, but you can do that better if the abdominal muscles are strengthened.

Miss Farrell continued: You know, if you have studied vocal music, the first thing the teacher does is to put your breathing right. The whole matter of diaphragmatic breathing is to get better control. It isn't for the sake of the tone that these exercises are given. It is for control and concentration.

Q. How many pupils ought a teacher to have?

A. In New York City we have fifteen pupils to a class, but I never met a teacher who, if asked whether she could take another child, would not say, "I would rather have him than let him wait. He will be easier to train now than he will be after he has been waiting two or three years for a place." This work is something more than missionary work,—it is preventing the necessity for missionary work. It is saving. Ours is a work of formation rather than reformation. When you save somebody from an impending danger you are doing something more worth while than when you fix him up after he has been through the fire. The special class teacher must have the type of mind which will lead her to say, "I can do more for this boy than any other teacher in this school, and I am going to have him," and so she has sixteen, eighteen, even twenty children. But she ought not to have more than fifteen in the class.

Q. Can we get help about articulation out of books for teachers of deaf-mutes? Is that too specialized?

A. Not at all. Any school for the deaf, where they

teach the oral method, is the best place for you to learn articulation work. Then there are the publications of the Volta Bureau of Washington, Bell's book on "Visible Speech," and many others which you will find by consulting the catalogue of any large library.

Q. Is there any reason for Miss Walsh's putting the children's hands under their jaw when they say certain sounds?

A. To get the vibration,—the child gets the idea better if he feels the vibration.

Q. Is there any particular order to follow?

A. The natural order is *the* order. Go back to the young child again. Think of the little children you know, the words they said first. Any good dictionary will give you information of this sort. Greenough's Latin Grammer gives the sequence of labials, dentals, palatals, etc. The child usually says *Mama* first. Notice whether that same child will put the *m* sound at the end of the word, and when he does it. Child psychology is the thing. The little book, "First Three Years of Childhood," and the book by Preyer, "The Infant Mind," and "The Senses and the Will," and Professor Baldwin's account of his own child, and Professor Dearborn's recently published monograph on the development of speech in his own child,—these are all good books for you. Look in any library under *Child Psychology*, or *Child Linguistics*, and you will

find many books that will help you. But the thing that will help most is to think of the children you have known, and arrange the words that the child said first as you remember them. Analyse them into initial, final, and intermediary sounds.

Q. What is to be done with the hopeless cases? Is the teacher to keep them in her class indefinitely?

A. One cannot decide very often that a case really is hopeless until the child has had every chance, until every effort has been made to train him. One should not judge too hastily, or too superficially. The special class teacher must be a scientist to the extent of suspending her judgment. She must say, This throws light on the question, but it is not final. While there is life there is hope. We cannot grow a second arm, but in the developing mind, who can tell what is going to happen? We know that much is possible in the rebirth of adolescence; there is much to hope for at that time.

There is going to be a great change when this work spreads throughout the country, and you are the people who are going to spread it. We want you to get the point of view of special class work. Here are twenty women who are having an opinion formed on the subject of backward children, and you will go back to your community; and you will help to mould public opinion there. The problem will present itself in some

way like this. You will have some children in your class who don't belong there. They will stay year after year, and learn little. Someone will say, What are you going to do with them? You will have to take a step forward and say, Put them in institutions. Then the people will say, But that costs money, and these children could earn a living; let that boy go to work, he could sweep the streets, and let this girl go to work as a servant. You will answer, That's all very true, but he's going to get married, and she's going to get married, and here I am teaching school, and I am going to have their children to teach. And it will all be gone over again, and those children will marry and have children. The community is spending its money to educate them, and they are getting no good of it. It is spending money on them in prisons, and almshouses, and hospitals,—more and more money. Then your friend will say, Let us put them in institutions. And you will find that the institutions are full and have long waiting lists. They will have to build more institutions. And even when the children do at last get into an institution, an ignorant or greedy parent can come and get them out and put them to work. After a while the people will not leave it for a feeble-minded father or mother to say, "No, he shan't go into an institution. I can take care of my own boy." As sure as the sun sets to-night, the day is not far distant when in New York

state we will have a commission to pass upon our mentally defective children and send them to an institution, just as we have a commission to pass upon criminals and small-pox cases, and other persons dangerous to the public. And here I will be a prophet. I believe that within ten years in New York state we will have definite compulsory care for children unable to get along in school. A great scheme has been worked out to provide for almost any contingency which may arise while custodial care is being brought about.

Now if each of you will go home and teach and show the wastefulness of feeble-mindedness, make your school boards and your community see how much money is wasted by letting these feeble-minded persons run at large and have children,—that is what will impress them, the extravagance of it. I want you to get the right point of view. These particular children do not matter so much, if we can use them as laboratory material to demonstrate the problem, to show the facts. Remember that we have 150,000 to 300,000 idiots in this country, and less than 15,000 in institutions. Where are the rest of them? About the countryside, marrying and having children. Come back to the question of cost; the state takes care of them anyway. The almshouses are full. The jails are full. The lunatic asylums are full. That could all have been wiped out if the teachers had been intelligent

enough. The day will come when I will not have a job and you ought not have a job. We ought to work ourselves out of our jobs, if we are good for anything. If we could lock up all the feeble-minded in New York state to-night, in thirty years we would have very few feeble-minded persons living. We would take care that the next generation would have very few feeble-minded persons in it. There would be a few sporadic cases, of course. If you will remember that you are to work yourselves out of a job, you will be doing a great work. You will be following out the doctrines of the great biologists, and preparing the way for the future perfect man and perfect woman.

August 3, 1911.

Are there any questions to clear up about the work thus far? I shall appreciate very much the expression of your own opinion about anything you have seen, and perhaps by telling what you do think it will give me a chance to make some things clear to you that must otherwise pass.

Q. I have boys in school who are very active and troublesome, and I find that they change sometimes when their actions are not noticed,—I find that they come around best when they are not noticed. Is it better to leave them alone, or would you take decided steps to have them obey your commands at once?

A. There are two ways of looking at that. Open rebellion in the school room must be met. If a boy openly refuses, there is a condition which must be dealt with at once. Personally, I believe that the fewer commands given the fewer opportunities are offered for the disobedience of the child, and the better it is for the school work and for the teacher. I think there is no question about what is best for the children, —that is the school, of course. There is never any doubt in my own mind on that point. The schools are made for the children, and unless the school is the place where the child can improve, there is something the matter with the school. I believe almost in peace at any price. I would keep the children in school at all costs to myself and anyone else. I have in mind a condition which might arise, which you would have to meet for the sake of the other children. The wise teacher has few such conditions, very few. But if one does come up, it has to be met, that's all. After all, why are we in school? We are there for the sake of the children, and whatever makes the school count more for the children, that is what we must do.

Q. In playing store, did Miss Walsh expect the children to add 14 and 9, or did she expect them to give her 14 pennies and then 9 pennies?

Miss Walsh answered: I expected them to do both,

to give me the change for each article, and then count up the whole cost.

Miss Farrell added: Of course, there is a time when the child counts up his purchases, and the child who keeps the store gives him the change, say from 25 cents, and this gives a chance for subtraction as well as addition. It doesn't so much matter how they do it. It is simpler for the children to count out 9 pennies and 14 pennies. I think Miss Walsh's idea is to work toward the true condition in stores. The child must be able to count 9 and 14 and 25, and find out if he gets the right change.

Q. You don't attempt any tone exercises in articulation?

A. Yes, in conjunction with breath control and the tongue gymnastics.

Now if there is nothing else, I want to take up the question of what you shall teach these children. I want to indicate for you first the thing that you know quite as well as I do, and that is that the children,—our children here,—need to get the same thing from a thousand different points of view, if they can. In that respect your children at home are no different. The same condition exists for the children as exists for us. We can hear of the Mona Lisa in the gallery at Paris for a year and a day, and still we do not know the Mona Lisa until we have seen the original. That

holds true of everything, no matter how small or how large. We must get all the information we can, from as many points of view as we possibly can, in order to know completely the thing we are studying. In order to give the children an opportunity to know all they can about any given thing, it seems wise to correlate all the different activities of the children.

When you begin to correlate you get into a subject which has been much abused. Correlations have been made, and after a time they are seen to be not real correlations, but seeming correlations. For the sake of correlation, some teachers have been willing to strain a point and correlate everything. It is not of such correlation that I speak. I mean only the natural correlations. Only those things which are nearly related can be correlated. And the question arises, what are those things? I want it understood that I am going to consider the question from the point of view of the teacher of subnormal children.

If you are going to correlate, it becomes necessary to determine certain centers of interest. A center of interest, to be of very much use, must be big enough to allow work to go on over a considerable period of time. I need not indicate for you here the psychological value of such a scheme. It is again the problem of attention, the problem of interest, of spreading out and pushing forward further from the center,

the span of attention, and the span of interest. We want to create in the children, not the constantly changing interests in a number of things; we want to hold their interest in one thing. Whatever the center of interest you decide upon, it must have in itself the qualities which will command the children's attention and hold their interest for some time. I don't want to say what are the centers of interest to be determined. I think it would be wrong to do so. Here again you have to consider the children you teach, their direct inheritance, and their indirect inheritance, their racial instincts and leanings, their surroundings, and the occupations of their parents. All that must come into it.

Through all this, which seems utilitarian and materialistic in a very real way, the teacher must have in her mind an all-enveloping desire to make these children the highest type of men or women they are capable of becoming. That desire must have an indirect or unconscious influence. You are not going to say to the children, to these little Russians "Be Americans," to these little Italians, "Be Americans." You are not going to say that in so many words, but your whole manner of dealing with them is to be illuminated with the intense desire on your part to make of these little rascals American men and women. You don't define that, of course, to the children.

You select your center of interest, and then like a great cover you weave around it your desire to make them the best type of men or woman. That will do more than the center of interest to develop the right spirit in the children. It seems a little odd, perhaps, to emphasize the cover that you put around the thing, before the thing itself is known, but after all it is this undefined desire which is going to color your work and make it worth while. There are many factors which enter into the effect of unconscious tone. If you know Bishop Huntington's book, you will know that the things the teacher teaches are not half so great or weighty as what the teacher is. This is an old and hackneyed saying, but Bishop Huntington has put it in such a way that it will stick to you as long as you live. If the thing which dominates your consciousness is your desire to make of these children something more than workers in this workaday world, you are going to succeed. But do not state to the children that they are going to be idealists. Do not give them work which has been evolved in some philosophic brain, but give them the work that is here and now, and lead them step by step, until some day they come into the inheritance of the race.

Like so many other things, the really vital spark in teaching is something you can't define or hand on from one to another. It is something we have in us.

We have it, or we have it not, and if we have it not, we are not teachers.

If you have formed some idea of this great cover which is going to dominate your whole work with the children, we can go on to the more material fact of the center of interest. In New York City last year we worked twelve centers of interest, and I am going to tell you frankly the trouble with working twelve centers of interest, and I am going to advise you not to do it. We did it last year. In September and October we took the harvest, and Columbus Day. Columbus Day with us is a legal holiday, and directly interests all school people *because* it is a holiday, and a large number of school children who are Italians and very proud of Columbus, naturally. In November we took up the story of the Indians and the first Thanksgiving. In December we taught the story of Christmas, and in Jewish sections of the city we took the festival of the Seven Lights, which is a Jewish festival and emblematic of the Christian Christmas. In January we took the children of the North, and in February we had a patriotic month, with Washington's and Lincoln's birthdays. From March on until the end of the year we studied germination and farm life, beginning with germination in March; in April, Easter, the awakening of spring, the higher thought of germination; and in May, early farming. In June we carried on the study

of agricultural life, and picked up the loose ends for the year.

This sounds better than it is. Right away an experienced teacher will say it is too fragmentary, and that is the whole trouble with it. It was no trouble the first year we did it, because it had not been done on an extensive scale, and it was new to teachers and children, and everybody was interested in it. The second year, fortunately or unfortunately, the children remembered a great deal that had been done before. It lacked the first bright interest, and to a great extent it was useless. That was not true in all classes, but was proportionately true as the teacher was efficient. The thing to keep in mind is your own class and how long you can carry the center of interest.

Anybody who has watched the work here this summer has some idea of the abundance of work offered by the play house. We are going to finish it off in a big way only. There is many weeks' work on the play house. In the hands of somebody who wants to work hard enough it offers opportunity for a whole year's work. That, of course, is provided you can keep your interest in it, and provided the children keep theirs. There are little tricks of holding attention. Mrs. Pfeiffer has given a shining example of one. The children had worked at this house until it was impossible to see very much change in it, although something was done

every day. Then Mrs. Pfeiffer had the whole lot painted. It looks like a new thing. The interest has been revived, and the children are willing to go on with them because they look more like houses. There is the trick of not allowing the children to work at all the rooms of the house, not to get the whole thing mixed up, but to work on one room. Get the kitchen done, and then go to the next room. Define the problems you are going to let the children work on. Those little tricks of keeping up the interest will suggest themselves to you, as they do to any practical teacher.

Q. Does each child plan his own house?

A. Yes, and there are many things about that series of houses that are intensely interesting. Take these little ones. The children all started with boxes of about the same height. There wasn't three inches difference in height. Now look at them. I remember seeing Flora; she had drawn the line down to get the slant for the roof, and when she came to saw it she sawed toward the front of the house; but after many trials and tribulations she got it right. In the hands of most teachers, again, it would have meant bringing up another box for Robert, but that one is worth more, as showing what Robert does, than a perfect house, started the third or fourth time. It is better for him. He can see without anybody's calling attention to it that it is different from the others. He may not

be able to explain it in words, but he can't help seeing it.

When you look at these houses, you know they are the work of the children. Most teachers wouldn't want to stand for some of the things on these houses. It is only a real teacher who will stand for them. Look at those windows. Think of the arithmetic which is involved in planning the windows and measuring them off. And the houses look like the children who made them. That one belongs to David. David is a normal child, probably. It shows in the work he does. Look at his fine large windows. Now look at Wilbur's, what little square holes he has. Whether Wilbur has ever noticed that windows are generally longer than they are wide, is a question. But look at David's again. David has windows which are large enough to give light and air to the house. Think of the arithmetic! That is what would appeal to the teacher. The inside also the children work at. They decide whether they want two rooms or four rooms, a two story house or a four story house. Two boys chose to make a house long, this way. As you look into these matters, a great many questions will spring up in your minds.

Q. How did they begin them?

Mrs. Pfeiffer answered: They brought their own boxes to begin with. Our morning talk had been about their homes, what they were made of, how many rooms

they had, and so on. Then we talked about the house they would like to make, how many rooms it should have, and what these rooms should be, and where they should be arranged. Almost everybody decided that the kitchen ought to be the largest room, and you see in many cases it is the largest room. After the rooms were decided on and the partitions built, they planned the windows and doors. Sometimes they did not work out as planned, and sometimes they worked out better. George has stained his floor and put a molding around for the baseboard. Ernest's is very much more nicely done. Some of his rooms are now papered, and all his floors are stained.

Miss Farrell resumed: Perhaps if I say how the painting was done, it will indicate how the house was planned. The children were asked to notice how many kinds of paint were used on one building. On most houses you will find two. The body of the house is one color, and the windows, doors, and moldings are another color. That brought out the interest of the children in their own homes. I think there have been a few mistakes with regard to painting the moldings lighter than the body of the house.

It is a matter for suggestion and direction. The ideal play house, it seems to me, for the school children to make would be a duplicate of their own home. We have in one class-room in New York City a piece

of communal work done with pasteboard boxes, representing a large tenement in which the children live, a massive construction, put together with paper fasteners. The idea they got from it was a great, long, box-shaped affair, with floors close together. Other children who lived better, with wider halls and larger rooms, had a different idea to work out. Here again, as in everything else, begin with the child, let the work be *his*.

Another thing is true of New York City: we have houses all on one floor. When New York children make a play house, they make the rooms all on one floor. That is their idea of a home. I remember some children who were sent to the country one summer, and the greatest discovery they made was that some people lived in a house where there were two pairs of stairs. You went up, and there was a place where people slept, and you went up again, and there was an attic with all kinds of fascinating things stored in it. Now these children had no idea that anybody lived that way and had such a home. That knowledge grew directly out of the center of interest in the home.

Here you have more problems in arithmetic than you can use. You will see to-morrow how Mrs. Pfeiffer has led up to square measure (and maybe to cubic measure by multiplying the three dimensions). For real purposes of training, the children cannot get an idea of cubic measure, but you will see to-morrow how

the lesson in square measure could readily be carried on into cubic measure. There are many other ideas for arithmetic which could be worked out in connection with the play house.

I want to ask your attention to the amount of literature and language work which is opened up when you study the play house. We have had two trips to museums and will have another, to study the work of other peoples, particularly the basketry and pottery which we have taken up. More than a year's work is at hand when you begin to correlate the reading, language, and literature of the subject with the motor training offered in the play house. You have seen something of the interest in reading which comes out of the play house. Our children have been reading about children of faraway lands, what kinds of houses they live in. This morning in the language work we had an imaginative story. We have one child who is said to be very imaginative and able to make up stories, but several of the children did quite as well as she did. They told such stories as this: "My house is a shanty. It is down by the river. An old bachelor lives in my house. He loves fishing, and likes to go out in a boat."

Another child said: "Mr. and Mrs. Carter live in my house. My house will be in the country near a farmer's field." This was not suggested. These stories were the free exercise of the children's own

imagination. Another one said: "Willie B. lives in my house. He rides horseback all over the country. My mother likes me to visit Willie B." Five children were working at the blackboard and we have five individual sets of sentences.

Q. Can the children spell all the words in stories like that?

A. It is not necessary to know how to spell every word. The thing that is necessary is to have something to say, and to make an effort at saying it. These children had that.

Q. But wouldn't you teach these children to spell?

A. While I have said that I did not think it necessary for children to have formal spelling lessons, that is because the time we have with the children is so short that we felt we wanted to keep the facts uppermost in their consciousness. As a consequence of this we have given them books in which they have written words relating to the center of interest, the play house, my home, and so on,—the words they had trouble in spelling,—and these books will measure up well with the work of other children. Each child doesn't have the same words,—that isn't necessary. Robert never can spell *is*, and always has to be shown how to do that. But George knows how to spell it, and so he doesn't need to have it in his book. The books are almost as individual as the children. They choose the name-

words most often, *father, mother, kitchen*. They do not choose the action words so often.

I said in the beginning that I did not believe in a strained correlation. For that reason we have not hesitated to sing about the carpenter, about the beehive, about the cloudy day. We do not have enough songs of the right kind for the children to sing all the time about the house.

I am going to recommend to you to decide upon a center of interest, and make it last for as long a time as it is possible or wise for you to work upon it, and then make such natural correlations,—such obvious correlations,—as will meet the needs and desires of the children. Do not strain after the artificial. It is not necessary for them to work with buying or selling, or measuring, or any work connected with the house *all* the time. But you want correlation of the right kind. The teacher need make only the natural correlations, and she will have variety in her work. But when you strain, as some great schools of pedagogy have strained, for correlation, you are going to have a dead level which is hard to make interesting at all times.

I am sorry I can't tell you of a center of interest to work out next year. I can only say that in many of the schools in New York City we will begin in September a center of interest which will extend over a longer period than one month. Except where teachers want

it very much, we will not have the short periods of one month, changing the whole train of things and starting afresh the next month. The thing to do is to find a center of interest which will carry the children along for a longer period of time. When you have found that, you have found the work which is easiest done.

Try to arouse in the hearts of the children the right feeling toward father and mother, and an affection for their home. It must not be given out as a dogma to be believed. The thing you must strive for is feeling, that is all that will count with little children. There are a dozen types of work which I might indicate, but they will suggest themselves to you as you go on. If you will take this as a scheme,—put a circle in the center of your page, and name your interest, whatever it is,—perhaps it is “my house”. Then from that draw lines showing the great bodies of knowledge you are going to teach. Perhaps you are going to let ethnology grow out of this center of interest. You are going to teach geography, manual training, art work, physical training. Arrange all the things you are going to do, around there. See what you think of it. It is almost like a map of the heavens! With this center I can teach the relation of father and mother and children. I can teach what constitutes a home. In art work I can teach textiles and combinations of color, and the decorations of the home. Go over it again and again

and limit, and boil it down, down, down. The things that will suggest themselves first are the true correlations; those are the obvious facts which you want to relate in the minds of the children.

There is a very real justification for correlating on the basis of the unity of the mental life. That again is for your own background. That is to be the soil out of which your correlating for the child is to arise. I want to recommend to you earnestly this idea of correlation for children who are backward, retarded, who have little chance to make their own correlations without the help of some one else. One way to do it is to present the day's work in a related fashion. And I want to recommend to you that you think of this as a unity. The whole thing is one. Leibnitz says that the greatest thing in the world, the most all-encompassing abstraction, is the idea of unity. Now if it is as difficult as that for Leibnitz, it must be very difficult for us. But it is the thing to remember,—to unify, to correlate, to interweave the different factors in the life of these children.

THE CHILDREN'S WORK.

PLATES

XXI-XXXII.

These illustrations exhibit great differences in the quantity and quality of the manual work accomplished by the several children. Twelve children are shown, each with his own work and each proud of his accomplishment. To obtain a complete understanding of what the work accomplished meant for each child, would require a very long report of day-to-day progress. This progress students in the observation class were able to watch, and their attention was drawn to the significance of particular portions of the work for the immediate developmental needs of the individual child. The boy shown in Plate XXX came to the work interested in nothing. The chief task with him was to stimulate his interest in any kind of performance, no matter what. In general, emphasis was placed upon an increase in the power to accomplish rather

than in the completion of perfected work. Thus "Twenty-four's" completed work is poor in quality and small in quantity compared with "Twenty-one," but the former received actually more instruction and made relatively more progress measured in terms of accomplishment than did the latter. In Plate XXVIII the house as finished is smaller than that produced by the boy in Plate XXI. The former started out to make a larger house, but made many mistakes and was compelled to overcome his own mistakes instead of being allowed to start anew with fresh material.

The children were told to bring boxes from home, for the purpose of encouraging spontaneity and responsibility on the part of the children, and also to suggest to teachers that inexpensive material will suffice for the purposes of instruction. Ten children brought boxes. Those who did not were given other occupations.

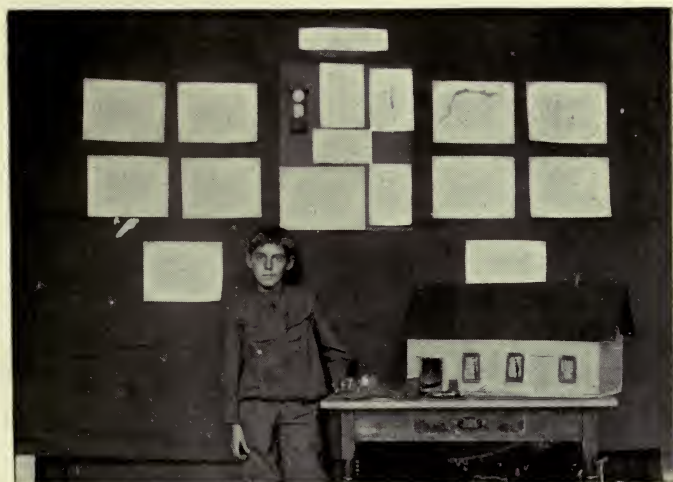
In addition to the houses the pictures show specimens of basket work, soldiers' hats, flags and shields, illustrating some of the story work of the class, drawings in pencil, colored crayons, and water colors, and furniture for the houses. The central idea of the manual work was the building of the home. This selection was felt to be psychologically justified and also educationally important, combining as it did the natural interest of the child with the opportunity to train and direct his powers of observation to the objects of the ordinary environment, giving also an opportunity to suggest a wealth of hygienic and social knowledge.



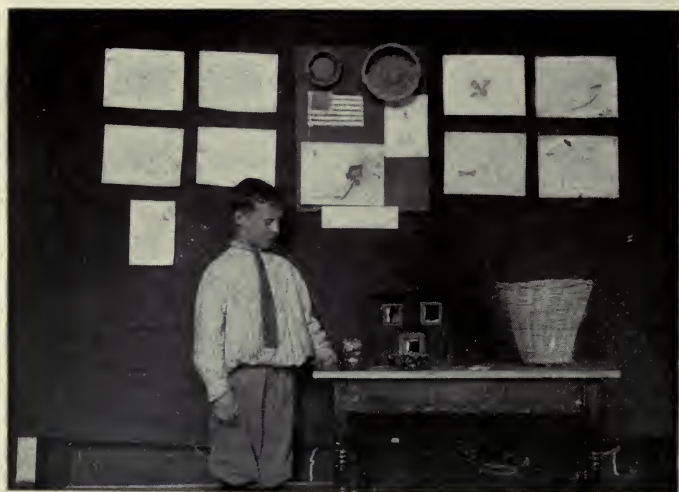
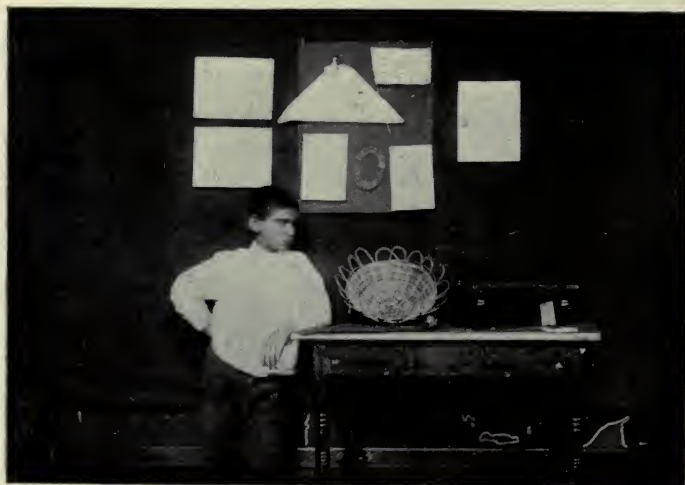
PLATES XXI AND XXII.



PLATES XXIII AND XXIV



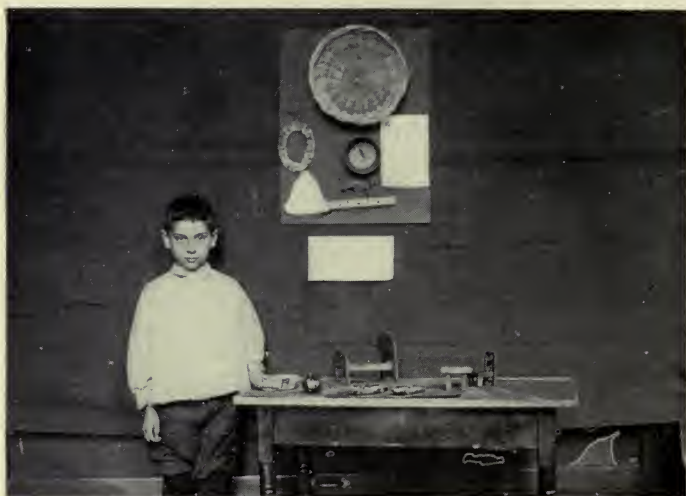
PLATES XXV AND XXVI.



PLATES XXVII AND XXVIII.



PLATES XXIX AND XXX..



PLATES XXXI AND XXXII.

CHAPTER VII.

NUTRITION AND GROWTH.

BY LOUISE STEVENS BRYANT.

The factors of nutrition are air, water, food, exercise and rest. We were able to control all of these factors from nine to four on each school day. It was summer, so there was no trouble in keeping the windows open, and the children were out of doors a considerable portion of the time. The water supply was carefully regulated, the children drinking spring water at certain intervals under supervision. A lunch, as hearty as the weather permitted, was served at twelve. Exercise was assured in manual occupations, in the formal gymnastics with wands, Indian clubs, dumbbells, marching, ladder climbing and so forth; and the boys, in addition to the gymnasium work, had swimming and baseball. The children had a complete rest for an hour each day after lunch, and when they did not sleep still remained quite relaxed either in the open air or in a darkened room.

The balance of the twenty-four hours it was impossible to control directly except in the case of the six children under the immediate care of the Clinic in boarding homes. An attempt was made, however, to

SUSAN C.

I.

Filled out by Miss Black.

HOME EATING

	MONDAY	TUESDAY	WEDNESDAY
Went to bed at.....	8	8	8
Got up at.....	6.15	6.10	6.20
Slept (well; badly)....	well	well	well
Ate for supper:			
What? How much?			
Soup.....			
Bread.....	6 slices	6 slices	6 slices, 1 roll
Butter.....		on bread and jelly	on roll
Meat.....		Schweitzer cheese	
Vegetables.....		Rarebit of potatoes, tomatoes, eggs	
Dessert.....	banana	crullers	
Milk.....	3 glasses	3½ glasses	3 glasses
Ate for breakfast:			
What? How much?			
Milk.....	3 glasses	3 glasses	3½ glasses
Bread.....	6 slices		
Rolls.....		1	1, with jelly
Butter.....		on roll	on roll
Fruit.....		banana	
Eggs.....	2		
Meat.....		summer bologna	
Cereal.....	3 S. W. Bis.	2 S. W. Bis.	2 S. W. Bis.
Bowels moved:			
How many times?	1	2	2

NUTRITION AND GROWTH.

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Aug. 7-Aug. 13.

AND SLEEPING.

THURSDAY	FRIDAY	SATURDAY	SUNDAY
8 6.20 well	8 6.20 well	8.45 6.15 well	7.45 7 well
			(Dinner)
6 slices on bread	7 slices with bread and jelly	5 slices with bread and jelly	4 slices on bread
lima beans	tomatoes		Pot pie of beef and pork
3 glasses	3 glasses	plums 2½ glasses	stewed apples
3½ glasses 1 slice	3 glasses 2 slices	3½ glasses 4 plain, 1 toast	3 glasses 6 slices
on bread	on bread	on bread	with bread and jelly
	plums 2	cantaloupe	
3 S. W. Bis.	3 S. W. Bis.	2 S. W. Bis.	
1	1	2	2

GEORGE S.

II.

Filled out by Miss Blundin

HOME EATING

	MONDAY	TUESDAY	WEDNESDAY
Went to bed at.....	8	8	8
Got up at.....	7	7.30	8
Slept (well; badly)....	well	well	well
Ate for supper			
What? How much?			
Soup.....	vegetable		
Bread.....	2 slices	3 slices	2 slices
Butter.....	yes		yes
Meat.....		egg	boiled ham
Vegetables.....	fried toma- toes, corn, potatoes	stewed tomatoes, potatoes, boiled rice	cabbage, potatoes, beets
Dessert.....	huckleberries		
Milk.....	1 glass	1 glass	1 glass
Ate for breakfast:			
What? How much?	heartily		
Milk.....	1 glass	1 glass	1 glass
Bread.....	2 slices	2 slices	3 slices
Rolls.....			
Butter.....	yes	yes	yes
Fruit.....	apples	banana and huckleberries	
Eggs.....			1 egg
Meat.....			
Cereal.....	cereal	oat meal	cereal
Bowels moved:			
How many times?.....	twice	once	twice

NUTRITION AND GROWTH.

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July 31-Aug. 7.

AND SLEEPING.

THURSDAY	FRIDAY	SATURDAY	SUNDAY
8 6.30 soundly	8 7 soundly	9 7.30 soundly	9 9 soundly
1 slice yes mashed pota- toes, corn, beets huckleberries	vegetable 2 slices yes fish potatoes, stewed tomatoes, rice	2 slices yes steak mashed pota- toes, corn, beets corn starch	1 slice yes roast beef roast pota- toes, string beans, salad ice cream and cake
1 glass 3 slices yes apple sauce 1 egg oat meal	1 glass 3 slices yes huckleberries oat meal once	1 glass 2 slices yes 2 pears friz. beef, fried potatoes twice	2 glasses 3 slices yes 1 banana cereal once

WILBUR B.

III.

Filled out by mother

HOME EATING

	MONDAY	TUESDAY	WEDNESDAY
Went to bed at.....	8.30	8	9
Got up at.....	7	7	7
Slept (well; badly)....	well but restless	well, moved occasionally	pretty restless
Ate for supper:			
What? How much?			
Soup.....			
Bread.....	3 pieces	2 pieces	2 pieces
Butter.....	yes		yes
Meat.....	roast veal, generous portion	lamb stew	beef steak
Vegetables.....	potatoes, beans, beets, salad	potatoes, corn	potatoes, tomatoes
Dessert.....	tapioca	blackberry pudding	blackberry pudding
Ate for breakfast:			
What? How much?			
Milk.....	postum (one cup)	postum	postum
Bread.....	4 pieces and jelly	3 pieces	3 pieces
Rolls.....			
Butter.....		yes	yes and jelly
Fruit.....	bananas	apple sauce	blackberry mush
Eggs.....		scrambled	
Meat.....			
Cereal.....	grapenuts		post toasties
Bowels moved:			
How many times?	once during day	once during day	twice during day

July 24-31.

AND SLEEPING.

THURSDAY	FRIDAY	SATURDAY	SUNDAY
8 7 well	8.30 7 restless	9 7.30 well	9.30 8 well; only moved a few times
2 pieces	4 pieces	4 pieces	1 piece
pot roast beef	fish	veal cutlet	pot pie; meat and vege- tables all together
potatoes, corn, tomatoes	potatoes, peas	potatoes, beets, macaroni and cheese	
glass milk	custard pudding	junket	custard pudding
postum	postum	postum	postum
4 pieces	2 pieces	3 pieces	2 pieces
	one bun		1 roll, 1 piece cinnamon cake
yes	yes	yes	yes
apple sauce	apple sauce	bananas	cantaloupe
bacon and eggs		dried beef creamed	beef steak and pota- toes
	post toasties		
twice during day	twice during day	once during day	once during day

SAMUEL H.

IV.

July 24-31.

Filled out by Miss Leeds. HOME EATING AND SLEEPING

	MONDAY	TUESDAY	WEDNESDAY
Went to bed at.....	9 p. m.	9 p. m.	8 p. m.
Got up at.....	7 a. m.	7 a. m.	7 a. m.
Slept (well; badly)....	all right	all right	all right
Ate for supper:			
What? How much?			
Soup.....			No supper; could not find mother
Bread.....	2 slices	4 slices	
Butter.....	yes	yes	
Meat.....			
Vegetables.....			
Dessert.....	ice cream, 2 cents		
Milk.....	1 pint	1 pint	
Ate for breakfast:			
What? How much?			
	not very much		
Milk.....	hot milk and water	hot milk	hot milk
Bread.....	4 slices	4 slices	4 slices
Rolls.....			
Butter.....	yes	yes	yes
Fruit.....	banana		
Eggs	soft boiled		
Meat.....		herring and tomatoes	
Bowels moved:	yes	yes	
How many times?.....	regular— salts at bed time		

control the home food in some measure. First of all, at the mothers' meeting and also in personal interviews the mothers were urged not to give the children tea and coffee, but milk, and not to allow the children to eat between meals. In addition, records were kept of the home meals of each child during four weeks out of six. These were not accurate, but they served as indications of the home standard. On the same card was kept an account of the bed time and rising hour, of how the child slept each night, and of the bowel movements. Four typical original cards are appended; the first two represent the food in the homes of the two special caretakers. Susan was very seriously undernourished when she entered the special class ten days later than the other children. She was 4.1 kilos under weight for her age and height. In five weeks she gained 3.1 kilos, making her only 1 kilo below normal. When she first went to live at the caretaker's it was hard to get her to eat. The card appended shows the way she was eating by the fourth week. She had slept restlessly at the beginning, but after the first week slept well.

George, another seriously undernourished child, had about the same experience, but did not gain so much.

Wilbur, a boy slightly under normal in height, but normal in weight for his height and age, gained 3.6 kilos. His card was made out by his mother, who is intelligent

and reliable. It represents the diet in an average home of German-American people in good circumstances, who believe in hearty meals.

Samuel's is the fourth card, made out by a social worker from the boy's own account. This is incomplete and probably not accurate, but it gives a very good idea of the kind of meals that a typical boy of the city streets gets.

Note the two-cent ice cream, the herring and tomatoes, and the entry "no supper; could not find mother." This boy commonly ate his supper on the street, getting corn, watermelon, ice cream, pickles and fish from push carts.

THE DAILY SCHOOL LUNCH.

In planning a dietary for children the ideal method would be to study each individual child and find out exactly its rate of growth and the amount of cell-building food necessary for this, then determine how much heat and energy is needed by the child in order that it may grow properly, work and play. That the requirements for different individuals vary in all these respects it is not necessary to point out. However, the ideal plan being obviously impracticable, we did the next best thing.

In practice we must resort to averages. The average age of this class was ten years and average weight

about sixty pounds, or 28 kilos. Studies in growth and development during recent years have shown that during the school period, that is, from seven to fourteen, the rate of a child's growth and his bodily activity do not change very much. A dietary suited, therefore, to the needs of a ten-year-old child will not only be suitable for those three or four years younger, but, if amply planned, will be suited to the requirements of the succeeding years up to puberty. A recent study of the work of scientists in different countries on children's dietaries* has shown that the daily ration of a child ten years old, weighing sixty pounds, should in round numbers amount to between 300 and 350 grams of available food composed as follows: proteids 60 grams, carbohydrates 250, and fats 45; thus yielding a total of about 1600 calories of fuel or heat value.

From what we knew of the home lives of the children, it was probable that only about one-half the number were receiving enough of the right sort of food at home, while the other half were seriously undernourished. It was, therefore, deemed essential to make the one meal at school relatively larger than would otherwise have been necessary for one meal out of three. We decided to try to make the meal average about 800

*Bryant, Louise S. Recent Experimental Work on Children's Food Needs. *Dietetic and Hygienic Gazette*, June, 1911, N. Y.

calories of fuel units and to give at least one-half the amount of proteid and something more than one-half the amount of fat needed during the day.

MENUS.

In planning the menus to fulfill this dietary we apportioned to each child at least two slices of bread and butter, one glass of milk and a plate of ice cream. These were the constant items. Variety, which is nearly as important as absolute food values, was gained by providing seven or eight different meat or substantial vegetable dishes. We had in all ten different menus, so that no menu had to be repeated more than three times in the twenty-nine days. As a matter of fact, some of the menus proved to be so heavy for summer that they were not served again: for example, scrambled eggs and bacon, and hamburg steak with rice. Again, other menus proved so ideal for summer weather, for example, lettuce and jam sandwiches, or shredded wheat with milk and apple sauce, that they were repeated several times. All the children liked macaroni and cheese so well that it was also repeated a number of times. The daily menus were as follows:—

July 5—Beef stew, bread and butter, milk and ice cream.

July 6.—Meat pie, bread and butter, milk and ice cream.

- July 7.—Creamed fish, bread and butter, milk and ice cream.
- July 10.—Scrambled eggs, two slices of bacon, bread and butter, milk and ice cream.
- July 11.—Macaroni and cheese, bread and butter, milk and ice cream.
- July 12.—Roast beef sandwich, milk and vanilla ice cream.
- July 13.—Creamed beef, baked potato, bread and butter, milk and ice cream.
- July 14.—Lettuce sandwich, bread and butter, milk and ice cream.
- July 17.—Jam sandwich, boiled rice, milk and ice cream.
- July 18.—Shredded wheat with milk and sugar, apple sauce, milk and ice cream.
- July 19.—Macaroni and cheese, bread and butter, milk and ice cream.
- July 20.—Bread and butter, milk (extra bread) and ice cream.
- July 21.—Lettuce sandwich, bread and butter, milk and ice cream.
- July 24.—Jam sandwich, rice, milk and ice cream.
- July 25.—Shredded wheat, prunes, bread and butter and ice cream.
- July 26.—Bread and milk with extra bread and butter, and ice cream.

July 27.—Creamed beef, bread and butter, milk and ice cream.

July 28.—Lettuce sandwich, milk and ice cream.

July 31.—Jam sandwich, rice, milk and ice cream.

Aug. 1.—Bread and butter, milk with extra bread and ice cream.

Aug. 2.—Hamburg steak, rice, bread and butter, milk and ice cream.

Aug. 3.—Macaroni and cheese, bread and butter, milk and ice cream.

Aug. 4.—Lettuce sandwich, bread and butter, milk and ice cream.

Aug. 7.—Jam sandwich, rice, milk and ice cream.

Aug. 8.—Bread and butter, extra bread and milk, and ice cream.

Aug. 9.—Macaroni and cheese, bread and butter, milk and ice cream.

Aug. 10.—Hamburg steak, rice, bread and butter, milk and ice cream.

Aug. 11.—Lettuce sandwich, bread and butter, milk and ice cream.

Aug. 14.—Roast beef sandwich, milk and ice cream.

Aug. 15.—Macaroni and cheese, bread and butter, milk and ice cream.

In order to guard against the children buying candy after school it was necessary to make the lunch especially attractive, and there seemed no better way to

accomplish this than to furnish ice cream each day. This also served the purpose of keeping up the fat and proteid values, which could not have been done if we had given fruit, pastry, or pudding for dessert.

SERVICE.

The bread and butter and the main dish were served from a nearby restaurant. From our personal knowledge of the manager of this restaurant we were assured that the quality of the food was the best that could be had for the money. The bread and butter and main dish cost actually between six and seven cents and three or four cents per portion was charged for the service involved. The milk and ice cream were secured direct from dealers. The milk was pasteurized and cost ten cents a quart. Four quarts of ice cream of a good grade were served daily and it was possible to give large portions.

FOOD VALUES AND THE AVERAGE INTAKE PER CHILD PER DAY.

The food values of the ten specimen lunches were ascertained as follows:

First, the recipes of the main dishes were secured from the manager of the restaurant. These had been formulated at the time of ordering the lunches, but we

got the exact weights and measures at the time of the first serving of each menu. The exact amount of bread was weighed and likewise the butter. The recipe for the ice cream we were able to secure through the courtesy of Mr. Crane. Considerable interest is attached to this recipe because of the campaign for pure ice cream which has been carried on for several years past. In 1909 the Legislature of Pennsylvania passed an act (Act No. 38) regulating the ingredients of ice cream sold in the state. Most of the sections referred to the prohibition of coloring matter, gelatine, eggs in excess, and false labels. One of the most essential stipulations for our purpose, however, was the section regulating the amount of butter fat to be used. The law reads that no ice cream shall be sold within the state containing less than 8 per cent butter fat except where fruit and nuts are used for flavoring and then it shall not contain less than 6 per cent of butter fat. In the recipe given to us by Mr. Crane, which was in terms of 1280 quarts, the actual butter fat was over twice that required by law.

The food values of each menu were determined in detail, each ingredient being analyzed and its quota of proteid, fat, carbohydrate, potential energy and calories determined. The total for each day was estimated on the basis of nineteen portions, the number of children eating. The food value per portion was

determined by dividing the total by nineteen. Ten menus were used.

The first three days the lunches served were not counted, as during that time we were unable to secure the recipes. Twenty-seven days, therefore, were taken into consideration.

The total food values of each menu, divided according to the different principles, were multiplied by the number of days the menu had been served. The grand total was divided by twenty-seven, giving the average total food value for each day and this was divided by nineteen in order to get the average value per portion. A summary table showing the total food values per portion of the different menus, follows:

Materials	Proteid (grams)	Fat (grams)	Carbohydrate (grams)	Calories
1. Bread and milk, double portion, ice cream.....	31.16	37.00	117.04	769.00
2. Bread, roast beef, milk, ice cream..	32.4	45.38	73.12	774.00
3. Jam sandwich, rice, milk, ice cream..	26.38	36.95	149.29	885.00
4. Hamburg steak, rice, bread and butter, milk, ice cream.....	35.16	46.13	118.74	951.00
5. Macaroni and cheese, bread and butter, milk, ice cream..	30.51	65.05	117.31	1019.00

BACKWARD CHILDREN.

Materials	Proteid (grams)	Fat (grams)	Carbohydrate (grams)	Calories
6. Shredded wheat with sugar and milk, bread and butter, prunes and ice cream.....	20.85	37.32	147.26	904.00
7. Lettuce sandwich, with dressing, bread and but- ter, milk and ice cream.....	23.17	37.60	105.47	745.00
8. Scrambled eggs and bacon, bread and but- ter, milk and ice cream.....	31.79	72.72	74.08	866.26
9. Creamed beef, bread and but- ter, milk and ice cream.....	33.64	50.67	78.48	798.00
10. Creamed beef, baked potato, bread and but- ter, milk and ice cream.....	36.33	50.76	100.51	897.00

Total average per portion: proteid 28; fat 45; carbohydrate 115; calories 881.

It will be noted that the fat is very high, that the average per portion is equal to the total standard daily portion. The fat is mostly derived from milk and butter, which is the most wholesome form for children. The children whose home diet was most lacking in fat

were watched carefully and it was seen that they got more butter than the others. Several learned to eat butter for the first time. Again, the values given above took no account of waste. They are based on the assumption that all of the food served was eaten every day which of course was not strictly true, a fair amount being lost in changing from platter to plate.

RESULTS.

The good results of the feeding, exercise and rest were apparent to all. In several cases, children who had been fussy about their food, erratic in their appetites, and restless at night, began to improve immediately, and the final week's reports were uniformly good. There was no doubt the children themselves were interested in the lunches at school. What they had to eat was one of the main topics of conversation at home and was seconded only by their interest in their house building and basket weaving. A more exact estimate of the physical gains may be had from the measurements taken at the beginning and at the close of the class work.

NUTRITION MEASUREMENTS.

Before the class work started, and at the end of the six weeks, the nutrition of every child was measured as follows:

BACKWARD CHILDREN.

COMPARATIVE MEASUREMENTS TAKEN BEFORE AND AFTER

NAME	AGE	HEIGHT IN CM.			WEIGHT IN KILOS.		
		July 3	Normal	Aug. 12	July 3	Normal	Aug. 12
1. Abraham L..	8	115	121	119	21	24.1	21
2. George S....	8	132	121	132	21	26.8	22.9
3. Giovanni A..	9	126	126	126	25.9	25	25.1
4. Russell F....	9	124	126	124	22	25	22.2
5. Ernest H....	9	135	126	135	29.4	28.17	29.8
6. Samuel H....	9	126	126	126	27.3	25	27.8
7. Wilbur B....	10	129	131	129	26	26.27	29.6
8. Henry B....	10	129	131	129	25.4	27.27	25.8
9. Richmond B.	10	135	131	135	30	29.54	29.1
10. Oswald Z....	11	118	135	118	23	27.7	21.3
11. Morgan C....	11	137	135	137	29	30.9	29.9
12. Robert S....	11	140	135	140	31.8	30.9	32
Boys' Average..	10—	128.82	128.67	129.1	24.3	25.6	26.4
13. Clara S.....	8	120	120	122	23.7	22.27	24.3
14. Susan C.....	9	124	127	125	21.3	25.45	24.4
15. Agnes D....	10	128	131	128	30.8	25.9	32
16. Julia C.....	11	135	135	135	30.8	27.72	31.5
17. Flora C.....	13	157	148	157	42.7	47.27	42.3
18. Gertrude B..	13	139	148	141	36.7	33.18	38.4
Girls' Average..	11—	133.83	134.67	134.67	31.	35.3	32.2
General Average.	10—	130.5	130.66	130.78	27.7	29.9	28.3

NUTRITION AND GROWTH.

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SIX WEEKS' FEEDING, SHOWING RELATION TO STANDARD.

CHEST EXPANSION						GRIP			HEMOGLOBIN Per cent.	
Upper			Lower			R-L July 3	Normal	R-L Aug. 12	July 3	Aug. 12
July 3	Normal	Aug. 12	July 3	Normal	Aug. 12					
4	5	6	6	5	7	14-12	9-8	14-14	40	95
5	6	8	5	6	4	13-14	10-9	6-7	65	100
1	6	3	1	6	1	15-13	13-12	17-17	70	95
2	6	2	2	6	2	10-8	13-12	6-5	65	80
6	6	8	5	6	7	20-18	13-12	17-12	70	80
4	6	5	3	6	6	20-17	13-12	15-19	60	95
2	7	3	2	7	4	15-14	15-14	16-17	65	95
4	7	3	4	7	3	11-10	15-14	12-10	55	95
6	7	6	6	7	6	10-7	15-14	14-11	95	65
4	7	5	4	7	2	10-8	18-16	8-10	90	100
5	7	6	4	7	6	18-17	18-16	19-15	80	95
5	7	6	5	7	6	20-19	18-16	22-22	70	100
4	6.4	5	3.8	6.4	4.5	15-13	14-13	14-13	69	91
2	5	3	4	5	3	10-8	9-8	11-13	70	100
1	5	4	1	5	4	2-3	10-9	13-8	40	85
4	6	6	5	6	6	17-15	13-12	16-15	65	100
2	7	6	2	6	5	16-14	14-14	19-16	70	95
3.5	7	6	4	7	4	18-15	18-17	15-18	90	95
3	7	5	4	7	3	20-17	18-17	17-16	70	100
2.6	6.1	5	3.3	6	4.2	7-6	7-6	8-7	67	96
3.5	6.3	5	3.7	6.3	4.4	14-13	14-13	14-14	68	93

First, the height and weight were taken without clothes. This gave only the most general features of their growth, and did not indicate vitality, which was then determined by measuring the upper and lower chest expansion and the grip of the right and left hand. The surest single indication of nutrition being the state of the blood, a hæmoglobin test was made in each case. This part of the work was done by Dr. Lippert, a medical practitioner in Philadelphia and one of the Clinic's assistants. At the same time that the children were being weighed and measured, Dr. Lippert made a general estimate of their nutrition by observing their general appearance, the tonicity of the skin, the superficial circulation and the musculature. Dr. Lippert's report is given below in full.

The accompanying table shows all of the data secured in this experiment. It will be noted that the arrangement is as follows: First, the boys and girls are grouped separately and run according to age in each case. In each case the original and final measurement is compared with the normal.

NORMAL STANDARDS.

The normal standards were secured in the following way: The normal height was taken from Hastings*

*Hastings, William W., *Manual of Physical Measurements for Boys and Girls*, Springfield, Mass., 1902.

and represents the numerical average standard for each age and sex. The normal weight was determined by a slightly different plan. The height on the first day was taken and the normal weight was ascertained by reference to Wood's* tables. His tables, formulated after measuring several thousand cases during a period of ten years, differ from the usual height and weight tables in that they give for each age a possible range in height and weight, and indicate not merely a single height and weight standard, but the ratio of weight to height. For example: a boy of nine years may be anywhere from 119 to 137 centimeters in height and still not depart from the normal. Correspondingly he may range from 23 to nearly 30 kilos in weight, but the weight must correspond with the height, that is, for every centimeter of height he should have a certain number of grams in weight.

It will be readily seen that in estimating normal standards in a heterogeneous group, such as would be found in any American community, this kind of table is far more accurate than the usual form. For a specific example in the table, take the fifth boy, aged nine, who was 9 centimeters taller than the normal height given by Hastings for nine-year-old boys. On the other hand, according to Wood's table, the normal

* Wood, Thomas Dennison, Ninth Year Book of the Nat. Soc. for Study of Educ., pp. 34, 35.

weight for a boy nine years old whose height is 135 centimeters, is 28.17 kilos, and his weight was 29.4 kilos, thus being slightly above normal for his height and age. In the case of the tenth boy, aged eleven years, height 118 centimeters, a slightly different method had to be followed. According to Hastings he was 17 centimeters under normal in height. According to Wood, the very lowest possible height for a "normal" boy of eleven, is 129.4 centimeters. He did not come up to that height and there was therefore no way of estimating his normal weight according to his height and age. One hundred and eighteen centimeters, according to Wood's tables, is the lowest height limit for an eight-year-old boy. In this case, therefore, we took for the standard of comparison the lowest possible weight for an eleven-year-old boy as given by Wood irrespective of height, and according to this the boy was 4.7 kilos subnormal in weight.

It will be noted that in the height and weight measurements the class as a whole did not depart signally from the normal. The boys' average weight, starting 1.3 kilo below normal, at the end was nearly 1 kilo above, a net gain of 2.1 kilos. The girls started 4 kilos below normal and at the end were still 3 kilos from normal; showing a net gain of 1.2 kilos. The total average gain for the class was 0.6 kilo.

Of all the measurements taken at the beginning and end of the six weeks' work, the chest expansion figures made the worst showing, although there was a general average improvement of 0.7 centimeters for the class. Only one child, a boy, started with a normal chest expansion and he attained 2 centimeters over normal. Two other boys, starting below normal, gained so as to be above normal at the end, and one girl came up to normal.

The grip measurements were very varied. The general average showed an increase of 1 kilo in the left hand. On the whole, the girls showed the most improvement. Starting at normal, the girls made a general average increase over normal of 1 kilo for each hand.

In general, the most striking improvement was shown in the hæmoglobin tests, where the class average rose from 68 to 92 plus. The girls' average changed from 67 to 96. The boys' average changed from 69 to 91.

THE HÆMOGLOBIN TESTS.*

The hæmoglobin value in any individual instance is determined by the quantitative method, in which the color of a solution of blood of unknown valuation is compared with the color of a known valuation.

* Reported by Frieda E. Lippert, M. D.

For this test divers forms of apparatus are used. Of them all that of von Fleischl is the most accurate and was the instrument used in all of the analytical tests with the pupils of our special class. In this instrument, the color of the blood diluted in definite proportions with distilled water in one compartment of a tiny well, was compared with that of distilled water in an adjacent compartment, beneath which, by means of a thumb screw, a wedge of red glass (Cassius' *Gold-purpur*) is moved till the tints of the two chambers correspond exactly. The frame holding the wedge bears a graduated scale showing the hæmoglobin value in each individual. Normally, the blood contains a little less than 14 per cent hæmoglobin. The number 100 on von Fleischl's scale corresponds to 13.44 per cent.

A. L., Case 63. Aet. 7.

1. Stoop shouldered, musculature poor, undernourished. Hæmoglobin value 40.
2. This child has made gains in height, in muscular tonicity and in chest expansion. Hæmoglobin value 95; an increase of 7.39 per cent in actual value.

G. S., Case 484. Aet. 9.

1. Thin but well nourished. Musculature good. Hæmoglobin value 65.

2. This child shows a slight gain in weight and an increase in chest expansion. Hæmoglobin value 100; an increase of 4.71 per cent in actual value.

G. A., Case 441. Aet. 9.

1. Well nourished. Hæmoglobin value 70.
2. General appearance improved. Increase of muscular tonicity. Hæmoglobin value 95; an increase of 3.36 per cent in actual value.

R. F., Case 417. Aet. 9.

1. Sallow, pale; bad posture, musculature poor. Hæmoglobin value 65.
2. The physical condition here is apparently stationary. Hæmoglobin value 80; an increase of 2.02 per cent in actual value.

E. H., Case 402. Aet. 9.

1. Stoop shouldered, lateral spinal curvature. Musculature shows lack of tone. Hæmoglobin value 70.
2. The physical condition here is apparently stationary; there is a small increment in weight and in chest expansion. Hæmoglobin value 80; an increase of 1.35 per cent in actual value.

S. H., Case 456. Aet. 9.

1. Well nourished, musculature good. Hæmoglobin value 60.

2. The physical condition is apparently the same. There is a very small increment in weight and chest expansion. Hæmoglobin value 95; an increase of 4.70 per cent in actual value.

W. B., Case 464. Aet. 10.

1. Stoutly built, well developed, musculature good. Hæmoglobin value 65.
2. General appearance improved. Increase of musculature tonicity is marked. Gain of height and weight. Hæmoglobin value 95; an increase of 4.03 per cent in actual value.

R. B., Case 29. Aet. 10.

1. Sallow, pale. Adenoid facies, protruding shoulder blades, whole posture bad. Hæmoglobin value 65.
2. General appearance improved; increase of musculature tonicity; increased chest expansion. Hæmoglobin value 95; an increase of 5.37 per cent in actual value.

H. B., Case 182. Aet. 10.

1. Round shouldered, posture infantile, fairly well nourished. Hæmoglobin value 95.
2. This boy does not show a marked change. There is increase of musculature tonicity and a slight gain in chest expansion. Hæmoglobin value 65; a decrease of 4.03 per cent in actual value.

O. Z., Case 382. Aet. 11.

1. Posture bad, gait poor; general asymmetry; poorly nourished, poor musculature. Hæmoglobin value 90.
2. The physical condition of this child is apparently stationary. Hæmoglobin value has improved slightly,—100 per cent; an increase of 1.35 per cent in actual value.

J. C., Case 55. Aet. 11.

1. Well nourished, good musculature. Hæmoglobin value 80.
2. A slight improvement in general appearance. A slight gain in weight and in muscular tonicity. An improvement in chest expansion. Hæmoglobin value 95; an increase of 2.01 per cent in actual value.

R. S., Case 267. Aet. 11.

1. Good posture, good musculature, full chest, well nourished. Hæmoglobin value 70.
2. This child shows an improvement in general appearance. There are gains in each detail,—height, weight, muscular tonicity and chest expansion. Hæmoglobin value 100; an increase of 4.03 per cent in actual value.

C. S., Case 479. Aet. 8.

1. Fairly well nourished, musculature shows lack of tone. Hæmoglobin value 70.

2. This child shows an improvement in general appearance. There is an increase in height, weight, and muscular tonicity. Hæmoglobin value 100; an increase of 4.03 per cent in actual value.

S. C., Case 459. Aet. 9.

1. Stoop shouldered, entire posture bad, lateral spinal curvature, poorly nourished. Hæmoglobin value 40.
2. An improvement in general appearance. A marked gain in weight, in muscular tonicity and an increase in chest expansion. Hæmoglobin value 85; an increase of 6.05 per cent in actual value.

F. D., Case 247. Aet. 10.

1. Well nourished. Hæmoglobin value 65.
2. A markedly improved general appearance. A gain in height, weight and muscular tonicity. An increased chest expansion. Hæmoglobin value 100; an increase of 4.71 per cent in actual value.

M.C., Case 457. Aet. 11.

1. Stoop shouldered; general asymmetry, well nourished. Musculature denotes lack of tone. Hæmoglobin value 70.
2. A markedly improved general appearance, an increase of height and weight; improved mus-

cular tonicity; increased chest expansion. Hæmoglobin value 95; an increase of 3.36 per cent in actual value.

F. C., Case 327. Aet. 12.

1. Well nourished. Hæmoglobin value 90.
2. This child has remained apparently stationary in physical status. Hæmoglobin value 95; an increase of 0.67 per cent in actual value.

G. B., Case 74. Aet. 13.

1. Robust, well nourished, good musculature. Hæmoglobin value 70.
2. General appearance improved. Hæmoglobin value 100; an increase of 4.03 per cent in actual value.

CHAPTER VIII.

REPORT FROM THE SOCIAL SERVICE DEPARTMENT.

BY LOUISE STEVENS BRYANT.

When a child is brought to the Psychological Clinic it means that he has in some way departed from the normal, and the Clinic is the agent of society to which the parent or teacher turns for help. As a rule other social agencies are necessary to remedy the condition,—whether moral, mental, or physical,—that is most prominently associated with the deviation. Examination and diagnosis are not enough to indicate even to the exceptionally cultured parents or teachers the means of cure and treatment. Hospitals, operations, special diet, exceptional opportunities for recreation, judicious neglect, special methods of education,—these are all outside the normal experience or expectation of people who care for ordinary children.

There must, therefore, be a connecting link between the Clinic and the means of carrying out its recommendations, and this link is formed by the Social Service department. The social data collected by this department are reported as a part of the clinical picture and description of each child and also in the section on luncheons and nutrition. In the following paragraphs

will be presented a brief statement of the facts collected during the six weeks of the school, together with what has been attempted and accomplished in each case since. Two social workers regularly in the employ of the Clinic devoted their whole time to working with the class children and others who came for a first examination. At the same time eight volunteer workers from the student body, acting under their direction, took part in the visiting. Of these four were taking the course in social work offered by the Laboratory of Psychology, and devoted three hours daily to visiting as a required part of the course. The variety of experience represented in this class, which tended to make the discussions of unusual interest, is shown in the fact that one man was a superintendent of schools, another a school principal, one woman a graduate dietician, and the other a layman who had just become interested in social work.

During the six weeks the home of each child in the class was either visited every week or communicated with by letter. Twelve children were living with their own families, and these homes were each visited at least three times, most of them four times, and some more often. Altogether 72 visits in connection with the Special Class were made to children's homes, not including visits to caretakers. In addition, 22 written communications were received from homes. In the cases

of children living with the caretakers of the Clinic, Mrs. Bryant or Miss McCall made at least two visits to each of the houses, sometimes more than this. In addition, Dr. Lippert was visiting one of the houses at least once a week, and the Clinic was in daily communication with both houses by means of the girl who brought the children in the morning and called for them in the afternoon.

Parents were encouraged to visit the class, and every mother who was in town did visit at least once. Two special meetings were arranged for them, the first one on the Friday of the first week, and the other on the last Friday. Six mothers and the housemother of one of Clinic homes attended the first meeting. Miss Farrell talked to each mother alone as they came in, and then all together about their children. Mrs. Bryant then told them about the luncheons, and what it was hoped the regular food, rest and exercise would do, and asked their co-operation at home. The mothers were much interested and promised readily to do all they could. At the second meeting eight mothers were present, and while the children's school accomplishments were, of course, the main interest, they talked eagerly of the home life and the future of their boys and girls.

1. *Giovanni A.* This case required an unusual amount of social visiting, both before and during the six weeks,

because the family were firmly convinced that nothing could be done for the boy. When the social worker first called to take G. to the hospital for the preliminary work, she found him entirely unresponsive, very timid and cringing. He would not talk and at times when called for would run away and hide. In the six weeks from July 5th to August 15th he responded to the affection which met him everywhere and made any little request with frank confidence. At first one of the workers in the Social Service department called for him and took him home each day, because from all accounts we confidently expected that he would never come or get home by himself. In a surprisingly short time his manner had so changed that he was told he could come and go alone, which he did.

When he asked one of the social workers if he might bring his brother to visit the school one day and was told he must ask Miss Farrell, he immediately went to her. Again, at the closing of school he went to Dr. Holmes and asked if he might come back next year. He joked with his teachers and seemed to feel sure of their understanding and sympathy.

For the past two years his school record had been of the worst, his teacher stating that he was hopelessly bad and that in her opinion it would be a waste of time to have him in the Special Class of the summer school, as he had only wit enough to be bad. In a special

school where he had been for two years he played truant three or four days out of each week. Our records show that during the six weeks here he did not miss school once, though for some days he had no carfare and was obliged to walk from his uncle's home, a distance of over two miles.

While his attendance was perhaps largely due to the interesting nature of the school work, this interest itself was greatly aided by his changed environment. His uncle's home, where he lived this summer, is cleaner, better ventilated, and far more attractively situated than his own home. It is a three story brick building, with store and living room on the first floor, and work room, sleeping rooms and bath room on the floors above.

G.'s uncle is far kinder to the boy than his home people, while his wife is a cheerful, comely young woman of fair education. Out of school hours G.'s chief companion in the new neighborhood was the son of a neighbor who said that she would rather have G. as a playmate for her boy than any other child she knew. Not least among the forces that helped in G.'s improvement was this atmosphere of approbation. Whereas mother, father and teacher could say no good word to or of the boy, now both at home and at school he was met with affection and encouragement. He responded so freely to this that all who knew him

wonder why it was that father, mother and teacher united in declaring him hopelessly bad.

During the school period G. was taken to a nearby hospital for a special eye examination, as his eyes were bothering him. The examining physician said that probably nothing short of an operation could save his sight. G. was taken to another hospital, where the resident physician thought it advisable before resorting to an operation to try every means of remedying the condition by refraction. He was entered there about one month after the summer school closed and kept for over a week for the first refraction. After two months of experimenting with new lenses, he was re-examined and is to have new glasses, as his eyes have changed very much for the better under the treatment. Meantime, the boy's home and school environment are about what they were before he joined the special class. He is living at his father's house where, because of the mother's improved health, things are a shade better than they were. An unsuccessful attempt was made to have him placed in a regular class in another school. He is in the same school and in a special class, the only change being that he is in the "backward class" instead of the class for "incorrigibles". Repeated attempts to get reports on his present condition in school have been unsuccessful, so that we do not know how he is doing in his lessons. When he comes to

the Clinic or is taken for his eye treatment he is the same friendly, affectionate little boy that he was in the summer. The family are now ready to let us help the boy in any way we can, and it is probable that he is being treated with far more consideration than when he was believed by all to be hopeless and not worth saving.

2. *Wilbur B.* During the six weeks the home was visited three times and his mother called three times. His mother thought that he improved generally during the summer, and at her earnest request he was admitted in the fall to the speech class held weekly at the Clinic. His speech is improving so rapidly that the teacher believes his former difficulty was largely a slovenly habit rather than a fundamental defect.

3. *Richmond B.* No special social work was necessary in the case of R. B. The home was visited several times during the six weeks and his mother called twice. She seemed delighted with the interest the boy took in his school work and considered that he had changed for the better in every way. Physically he improved in one respect. He had been over weight but lost 1 kg. He is the only boy in the class who shows a loss in the hemoglobin test. In the fall he was brought for entrance in the speech class, but as his speech had not improved before, after one full year of work, he was

not admitted to the class. An attempt will be made to have him enter a special class in the public school, as he seems to be decidedly in need of individual attention.

4. *Henry B.* Three visits were made to Henry's home by the social workers. His parents reported that he improved physically and slept much better. During one of the visits, having ascertained that Mr. B. was ambitious for the boy to enter a profession of some sort, the social worker discouraged this idea and suggested instead that the boy be allowed to learn the use of tools and to acquire a manual trade. The mother, who seemed to be more awake to Henry's deficiency than the father, was persuaded to enter him in a special class in the public school in the fall. He is doing so well that his teacher, who happens to have very low grade children, wished to know why he was considered in need of special class work, as he formed a striking contrast to the children usually sent her.

5. *Gertrude B.* There was no change in the social environment of G. B. during the six weeks. She was taken on three different occasions to the oculist, twice to the dentist, and once to a neurologist for general treatment. None of this, however, was new and while it entailed a great deal of work on the part of the social workers, it had no special bearing on the develop-

ment of her case. On her return to the regular school in the fall, where she is in the third grade B, the teacher reported that she was greatly improved over last year, in both conduct and lessons. The special treatment of her eyes is having a good effect and the partial blindness is rapidly clearing up.

6. *Susan C.* Susan's original environment has already been described. A week after the special class opened she was placed with a special caretaker under direction of the Clinic. At once she began to show improvement. When she entered the caretaker's home she did not know how to eat properly. Her appetite was erratic and for the first two days she ate almost nothing. She had been used to sweets and spiced foods and was not accustomed to simple, unseasoned food. As soon as she got used to this, however, she began to improve, and after the first week she had gained so much that her clothes failed to meet around the waist. At first her sleeping was interrupted by spells of fright and she would call out that she saw "bogies". This ceased after a short time. Her teeth were seriously in need of care and she was taken to the dental dispensary at City Hall, where a specialist tried to save the three worst teeth. In the end, however, these had to be removed.

The nutrition test gave a far more satisfactory result with this child than with any other. She grew

1 cm. in height, which brought her within 1 cm. of normal. In weight she gained 6.2 kg. in five weeks,—over a pound a week. Her chest expansion increased 3 cm. and was brought up within 1 cm. of normal. Her grip changed from 2.3 to 13.8 kg., which made her at the end of the time 3 kg. above normal on the right hand and 1 kg. below on the left. Her hæmoglobin percentage changed from 40 to 85 per cent.

Because of these striking results of physical care and change in social environment it may be well to describe in detail her daily regimen.

She was living in the home of one of the special caretakers, which has already been described in the beginning of this report. The essential features are the airiness of the house, especially of the sleeping quarters, good sanitary arrangements, and the excellent food the children receive. She rose each morning at six. She was responsible for making her bed and keeping her room in order. She assisted in setting the table for breakfast, composed usually of bread and milk, and after breakfast she helped clear away the dishes. At 8.15 with the other children in the house she started to walk to school, a distance of a mile. From a quarter to nine to four in the afternoon she was in school under the continual supervision of the teachers. At luncheon she sat near a teacher, so that her eating might

be supervised. It was seen that she had all she wanted and that she chewed her food as well as the wretched condition of her teeth permitted. At four o'clock she walked home. The balance of the afternoon was spent in play, usually in the back yard when the weather permitted. She was the leader among the other children, inventing and directing the games. At supper she helped set the table and clear away, and after more play went to bed at eight o'clock.

This regular life was in marked contrast to her former existence in a very crowded, stuffy rear house. She had never sat down to a table before, and had no notion of how to eat. Her sleeping had been in a close room, apparently troubled by dreams of bogies, and most of her waking hours were spent in running about the streets and alleys of the neighborhood.

Because of the rapid improvement shown in her condition during the summer, it was decided to have her placed definitely under the care of the Clinic for six months. Arrangements were made with the Society for Organizing Charity and with a private individual, to pay for her board and lodging at the house of the same caretaker with whom she lived during the summer. She is attending the regular public school, where she is in the second grade, and her spelling and arithmetic marks are consistently 100. She comes to the speech class at the Clinic, and can now make all the sounds,

and when she speaks slowly she is perfectly intelligible. The Dean of the Dental School of the University has become personally interested in her case and is superintending her orthodontic treatment. At his suggestion and under the direction of another physician her nutrition is being stimulated by minute doses of thyroid. After three months we can say that her summer's forging ahead was neither accidental nor a merely temporary manifestation.

7. *Julia C.* Julia presents no special social problem. Her home, which is decidedly good in every respect, was visited on three different occasions and Mrs. C. called twice. The mother and father became enthusiastic over the progress she was making. They consider the most significant advance to be the growth of responsibility. She had never been able to go on the street cars alone or to count money, but after the first week she was able to come to school alone, although this necessitated changing of cars. The fact that all the children took part in setting the table, serving the food and clearing up after lunch seemed to stimulate her interest in housework, and she was very proud to do work at home which had formerly possessed little attraction for her. She has also shown other signs of growing up. She is not so noisy and hoydenish, but at the same time she is beginning to complain that she is not allowed to go with boys, saying that she is old enough now,

eleven years, to be given more freedom. At present she is back at the regular public school.

8. *Morgan C.* Certain vitally important facts were discovered about Morgan. The home was visited several times and both Mr. and Mrs. C. called. During these visits we learned for the first time that Morgan had been subject to convulsions on different occasions and that the mother's family had been decidedly neurotic for several generations. The maternal grandmother had on five different occasions been practically insane, although she had never been sent to a hospital. He was taken to Dr. Ludlum for a general neurological examination. At the time the examination was made it was not known that the convulsions had been periodical, nor that they had, on one occasion at least, been succeeded by paralysis. Dr. Ludlum, therefore, did not diagnose the case as epileptic. He found a condition of marked malnutrition and said that the boy should be given a Wassermann blood test, which proved to be negative. By the advice of Dr. Ludlum he was sent at the close of school to the Woman's Hospital for a thorough examination as to his nutrition. Three days of observation failed to show any new points. A surgeon advised the retaking of the Wassermann test at some future date. Meantime it was discovered that the convulsions had been periodic, occurring once a year at least, and that they were on at least one occa-

sion followed by paralysis, which reawakened the suspicion of epilepsy.

In the fall, owing to the personal interest of Miss Farrell, Morgan was admitted to a private special school in New York. Up to date he has not had any convulsions. He is responding satisfactorily to the discipline and teaching, and we are watching the experiment with the greatest interest.

9. *Flora C.* This child, a very pretty and attractive young girl of thirteen, presents socially one of the most difficult problems that we meet. She is of very low grade mentally and yet, because of her real physical charm, this is not obvious. Unless she is removed from her present environment she is likely to bear feeble-minded children, and this in spite of the fact that her home is a good one and her mother guards her constantly.

One of the social workers, being especially interested in Flora, visited the home on five different occasions. The acquaintance thus developed into a fairly intimate one and it was possible to give certain helpful suggestions as to Flora's care. The mother had been formerly anxious for her to improve academically and could not see the uselessness of purely mental training, nor the advantage of developing her ability in manual and household work, and when the class began she was skeptical of the value of basket making and wood

work. She now appears reconciled to the fact that Flora, who at thirteen is doing first grade work, will never shine as a scholar, especially when she recognized that the child was more interested in her hand work than she had ever been in reading and writing. Flora is continuing in the same special class this fall and is reported as generally improved, showing more concentration and interest than before. Owing to the efforts of the social workers Flora is being given special orthopedic exercises by her mother, acting under the instruction of a physician.

When it seems advisable, a further attempt will be made to convince the parents that the child should be placed under custodial care for the rest of her life.

10. *Agnes D.* No special social work was done during the six weeks in the case of Agnes, who as before, was in the home of one of the Clinic's caretakers. The housemother reported from week to week that Agnes was improving, especially in the matter of attention, and that she seemed less panic-stricken under observation. She also improved in ability to do housework. According to the wish of the people who are financially responsible for her, she is still at the same home and is in the grade 2B of a regular public school. The school reports, while variable, are favorable.

11. *Russell F.* Mrs. F. brought and called for Russell each day, which gave us a good opportunity to get acquainted with her and offer help and advice. After repeated efforts, she seemed to be somewhat impressed with the fact that her boy was not like other children. She was assured and appeared to understand that, although Russell improved physically and mentally in some respects, this did not mean that he could ever be made normal; consequently, it may be possible to persuade her to enter him in a school for the feeble-minded. So far nothing has been done, as the grandparents, aunts, and uncles are determined not to let the child go away from them, and the mother cannot be relied upon to hold out against the rest of the family.

12. *Ernest H.* Ernest's home was visited several times, but there was no need for special social work save in the matter of diet. The mother has strong leanings to vegetarianism and seem inclined to cut down the children's food below a reasonable standard in her laudable attempt to avoid overfeeding. Some of the boy's general debility for which he was brought to us may have been due to this fact. He returned to the public school (grade 4B) in the fall and has shown remarkable improvement in his work. The principal thinks it is largely the result of the special class experience and the combination it offered of physical strengthening and educational stimulus.

13. *Samuel H.* Samuel's home was visited several times before certain facts about the family history and the child's personal history came to light. It was found that in spite of a devoted mother he was not getting enough sleep and that his feeding was very irregular,—also that he had been under treatment by a private physician who had advised cutting out meat from his diet. This suggested the possibility of some kidney trouble, and the clue thus given was followed up. Through the co-operation of the Clinic and the Young Women's Union, he was entered in a hospital for observation and a thorough examination of his kidneys, heart and general nutrition. While there for two weeks, he was treated for some slight kidney trouble. He was afterward sent to the country for two weeks. On his return, the treatment begun for his kidneys was continued at a hospital nearer his home and he underwent a slight operation. Since this time he has shown a marked improvement in general health and disposition, with no recurrence of his old sulky moods. He will be under continued observation for an indefinite period.

14. *Abraham L.* One of the social workers, being a graduate dietitian and naturally most interested in cases of underfeeding, visited Abraham's home several times, and was able to effect a decided change in his food habits. Her main efforts were directed to elimi-

nating tea and coffee and substituting milk and cocoa. Then too, she urged upon his mother the necessity of making him eat, even when he was not very hungry,—the child being actually nearly starved because of too little food, and this in a home where there was no extreme poverty. At the school lunch he was watched and urged to eat, and being very docile, obeyed. He was also “starved” for sleep, and this he partially made up by long unbroken naps at school. The result was quite remarkable. His mother reported after a few weeks that he ate and slept better than ever before. The most remarkable change was found in the blood, which by test showed 40 per cent hæmoglobin in the beginning and 95 per cent at the close of the session. That his general vitality was greatly improved was shown partly by the better chest and grip measurements, but even more by the fact that he learned to smile and laugh, which we had never seen him do before. He also learned to swim and dive,—no small attainment in six weeks.

In the fall Abraham was brought to the Clinic for re-examination. At this time he responded very much better than he had on his first examination. Formerly he had hardly responded to any questions. Part of this difficulty, it was discovered, was due to the fact that he did not understand English, as he responded well enough when a member of the family

spoke to him in Yiddish. The condition seemed to be due, partially at least, to some psychical condition which has not as yet been determined. An obscure form of aphasia was suggested, but to determine this will require considerable observation.

The boy and his brother were submitted to a blood test in order to find out if there was some underlying constitutional difficulty. The blood test was negative.

Abraham was returned to his former school and the reports are so far uniformly favorable. The following statement was submitted by his teacher: "The improvement shown by A. L. is quite marked. He is decidedly more awake than he was last term and his memory is better though not up to the normal child. To my mind, Abraham will learn to read, but it may take ten or fifteen months to do five months' work." It was suggested that perhaps the boy might progress faster in a special class for backward children, where the numbers would be fewer than in a crowded first grade, and more individual attention could be given. This did not prove feasible, however, because the nearest school having a special class was a considerable distance from his home and he evidently could not be allowed to go to school alone. In case he does not make the hoped for progress he may be transferred to a special class at the end of three or four months.

At this time his older brother enters the grammar school and can accompany Abraham to the other school.

16. *Robert S.* One of the students in the class for social research, the principal of a combined school in a Pennsylvania town, became especially interested in Robert and visited the boy in his home several times, going in the evening to see the father. The father's mother was much pleased at the visit, and said it was the very first time that anyone outside the family had been sufficiently interested in Robert to call to see him. While Robert is a generally healthy lad, one habit was discovered which needed special correction. The mother said he spent a great deal of his time playing with cigarette pictures. These pictures were of the usual type, gaudy, and semi-obscene pictures of girls in tights, and so on. As Robert is only eleven years old, this is significant as showing precocious development. He would sit on the floor in the corner of the room brooding over his pictures, and although this does not seem to hurt him at present, it is not wholesome. He refuses, however, to give the cards up, and when asked to do so becomes very sullen and stubborn. The parents have been advised to give him as much manual work as possible and encourage his naturally strong interest in sports.

When Robert returned to the speech class in the fall

he was so much improved that the examining psychologist dismissed him from the class, and sent a message to the school teacher that his defect in speech was not fundamental and with perseverance might be entirely eliminated.

17. *George S.* George is a striking example of the change that may be wrought even in a short time by a more favorable social environment. As soon as he was removed from his own home he showed improvement. In every way his new environment was a contrast to the old. On the physical side he was assured proper food in sufficient quantities and a quiet place to sleep, but what was more important, the new environment was mentally wholesome. Instead of being nagged and scolded continually or being the center of attraction, amusement and bullying for a large number of children, he was judiciously let alone. Instead of having outbreaks of temper several days a week, he had none at all during his stay. His mother reported that he had never obeyed, and although this came hard at times, he obeyed quite well and cheerfully. He made one or two attempts to get the kind of interest he was accustomed to, by running away and refusing, for example, to come and be photographed. He told Mrs. Bryant that he was simply trying to make her or the teachers run after him. He said he had always been able to get his big sister to run after him. After

a few unsuccessful attempts he stopped this and gave no further trouble. Toward the end of the session his father requested that he be allowed to go home over Sunday to attend an aviation meet and go on a picnic. This was refused, as we felt that the excitement and lapse from discipline would be too much for him. George had learned of the invitation and had boasted of how he was going to carry on if he was not allowed to go. When the time came, however, he made no trouble whatever, although he was keenly disappointed.

His caretaker reported that he gave her absolutely no trouble; on the contrary, he soon made himself very useful about the house running errands. We had been afraid he might exploit Oswald, who was living in the same house, but he showed no tendency to do this. On the contrary, he took very good care of this boy, who was considerably weaker, helped him to dress, walked slowly with him and held his hand at the crossings on the road to school.

Physically he made almost as marked an improvement. He was 9 centimeters above normal height for his age and nearly 6 kilograms subnormal in weight for his height. In five weeks he gained 2 kilograms, his chest expansion increased and the hæmoglobin percentage rose from 65 to 100 per cent. His grip showed a falling off. He had been normal in the beginning, but the test showed a decided loss. However, at the

time the second test was taken, he said he felt very tired and that he knew he was not doing well, and in fact, did not try very hard.

The six weeks showed what could be done with George if he were placed permanently in a favorable environment. Of course, it did not work fundamental changes, and a week of his old home environment, which could not be avoided before getting him into the country, went far towards putting him back where he was in the beginning. However, before all the good effects had worn off, he was placed in the Children's Village at Meadowbrook, a sort of Junior Republic on a small scale. Here he sleeps out of doors, has all he needs to eat, and is under constant supervision and kindly discipline. In the school there he is being studied as a super-normal child and allowed to progress as fast as possible without pushing. In two months he has made such progress that his teacher says he will have completed three grades by Easter, instead of the usual one grade.

He has gained eleven pounds and begun to look and act like a different child. So far,—over four months,—he has given no trouble, either to his housemother or the teachers. His main difficulty is in playing with the other children. It comes hard for him when teased to keep his temper, but he is mastering himself very well and has had no serious outbreaks.

18. *Oswald Z.* Oswald is interesting, because he is the only child in the class who did not improve during the six weeks. The nutrition test showed that he lost one kilo in weight, although he was over four kilos subnormal to begin with. His grip and chest expansions were more feeble than in the beginning. He gained in the single respect of the hæmoglobin test; in the beginning it was 90 per cent and at the end 100 per cent. The caretaker reported that he seemed to be more fatigued each day, and at school he was allowed to sleep as long as he wished.

This general loss is very significant, because he was under the care of the Clinic for the whole twenty-four hours. He was receiving enough food, and was sleeping under wholesome conditions. He was also being kept very quiet out of school, but the excitement and strain of school work were evidently too much for him, and this experience proved that he was a boy who should not be in the special class. This was the first schooling he had ever received, and the first chance we had to see how he would react to a relatively normal situation. He was not able to stand the excitement, even with the best physical care and constant special allowance, such as being left asleep for an hour or more after the others had been aroused. He began to improve after the school stopped and is now looking very well indeed.

Aside from the general low physical condition it must be borne in mind that this boy is retarded because he never learned to speak. When he first came to the Clinic he was unable to make any of the articulate sounds of language. Within nine or ten months he learned with no formal and very little informal teaching, to make a great many sounds and to make himself partially understood by means of speech. For some time this boy had been a difficult case from the social point of view, because there was no provision for the training of children like him. The boy not being technically feeble-minded could not be admitted to an institution for the feeble-minded. On the other hand, not being deaf, he was not eligible for the ordinary institutions for the deaf. He is one of a class relatively small, but absolutely large, known as hearing mutes, which is receiving increasing attention by educational authorities. The immediate outlook seemed pretty hopeless until, in reading over the report of the Pennsylvania Oral School for the Deaf, at Scranton, Pa., we noted that among the children admitted during the past year five were hearing mutes. Four of these had been discharged because it was found they were feeble-minded, but one had been retained. This led us to hope that perhaps Oswald might be admitted on a similar basis, and after a lengthy correspondence with the head worker he was accepted on trial. After

a month they have agreed to keep him as long as necessary. He is being given the same throat and vocal gymnastics that the deaf children are taught, to get the sounds by the method of tongue placing and special breathing exercises, rather than by the method of imitation, which seemed to produce very slow results. Letters and reports are all favorable and the teachers seem confident of success with him. As it is the first case of the kind for which we have been able to secure definite treatment, it will be followed with much interest.

CHAPTER IX.

CLINICAL PSYCHOLOGY AND THE PROFESSIONAL TRAINING OF TEACHERS (AND OTHERS INTERESTED IN CHILD WELFARE).

BY LIGHTNER WITMER.

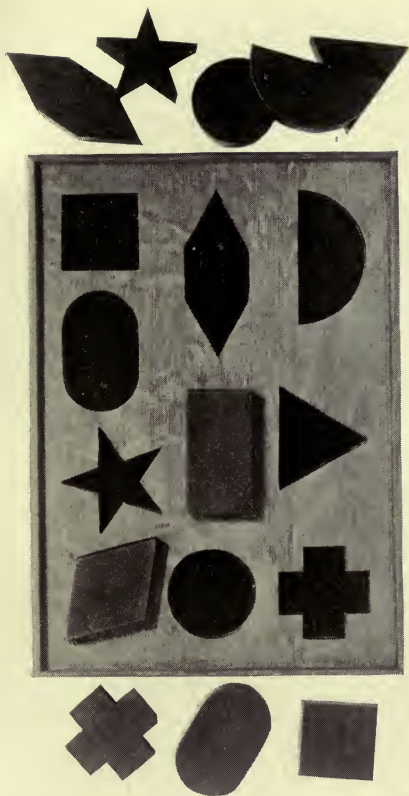
The organization of public school classes for backward and defective children is the result of several important influences which have already greatly modified and which may be expected still more to modify educational procedure. In the first place, these classes reflect the growth of a new professional spirit among public school administrators,—a more scientific attitude toward the problem of universal education, and a greater determination to promote individual and school efficiency. Ungraded and special classes are the direct consequence on the one hand of the enforcement of compulsory education, and on the other of a more definite conception of the real object of the public schools, *i. e.* the adequate preparation of all the children of our American communities for a life of social and economic usefulness. In great measure, however, the recognition of the existence and needs of these children has followed upon the installation of adequate medical inspection, first for the prevention of the spread

of contagious and infectious diseases and then for the removal of all physical defects or handicaps in the way of school progress. Another potent factor has been the growing social consciousness which the public schools are manifesting in common with other agencies who work for social betterment in general and for child welfare in particular. And lastly, but by no means of least importance, there is the stimulus which modern psychology during the twenty-five years of its development in this country has given to the recognition of individual needs and capabilities in order that the purposes of general education may be successfully carried forward.

The growing movement for the training of backward and defective children is momentarily the point within the public school system at which these various influences are most intensely focalized. But the introduction of the special class into public school work has carried with it certain consequences, some of them unexpected, but all of them resulting in the growth of a new point of view. The solution of the problem of educating backward children has of necessity led school administrators and teachers far afield from the merely pedagogical problem of teaching the three R's. It has led to an examination of the causes of backwardness, which have been found to include late entrance to school, absence, foreign parentage, inade-

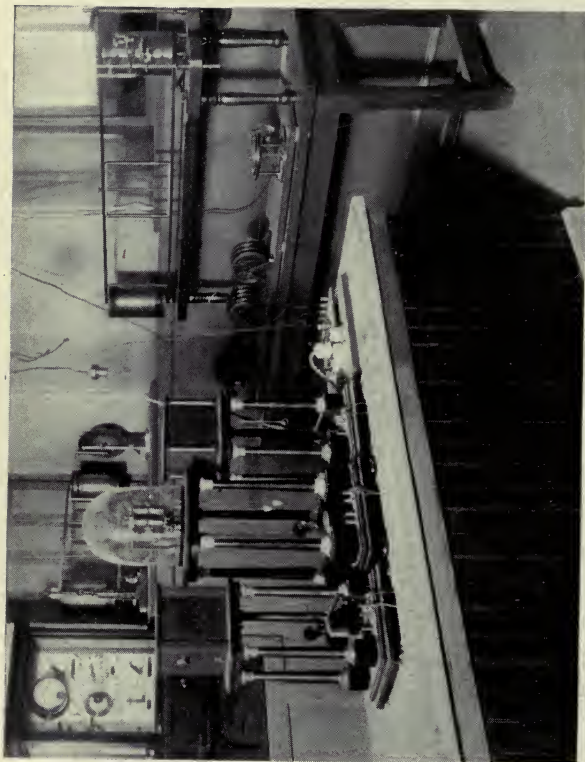
quate care, insufficient food and physical defects, as well as congenital mental inferiority. It has brought to bear upon the problem minds trained in economics, sociology, medicine, psychology and education. It has shown the necessity for the co-operation of the schools with university departments of research and instruction on the one hand, and with social and charitable organizations on the other. The pedagogical treatment of the problem demands (first of all) diagnosis and classification, and the necessity for classification has shown the necessity for the study of individuals. Thus there is being introduced into the schools a clinical, *i. e.* an individual psychology. Two classes of public school authorities require to-day an intimate knowledge of this modern type of psychology. These are (1) administrative officers, including school principals, and (2) all teachers who have to do with special or ungraded classes of children, whether these be mentally defective, speak only a foreign language, or possess exceptional ability.

The problem of the backward child is the problem of individual mental development, and no successful solution of this problem is possible unless those who are attempting it are animated by the spirit and penetrated by the facts of an individual psychology. Teachers for classes of exceptional children must therefore be made acquainted not only with special methods



XXXIII. A SIMPLE DEVICE FOR TESTING INTELLIGENCE.

THE FORM BOARD TESTS THE ABILITY OF A CHILD TO PLACE RAPIDLY BLOCKS OF VARIOUS SHAPES INTO RECESSES OF CORRESPONDING FORM. IT VERY QUICKLY GIVES THE EXPERIMENTER A GENERAL IDEA OF THE CHILD'S POWERS OF RECOGNITION, DISCRIMINATION, MEMORY, AND CO-ORDINATION. NO STUDENT OF CHILD DEVELOPMENT CAN AFFORD TO BE UNFAMILIAR WITH THE FORM BOARD AND THE METHOD OF EMPLOYING IT TO TEST INTELLIGENCE.



XXXIV. THREE CHRONOSCOPES.

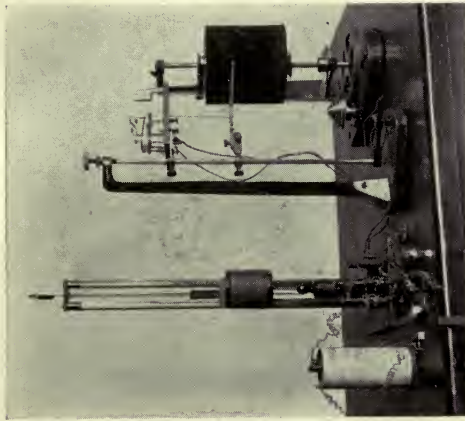
THE CHRONOSCOPE IS USED FOR MEASURING THE TIME OF MENTAL PROCESSES TO THE THOUSANDTH OF A SECOND, FOR EXAMPLE, THE TIME IT TAKES TO THINK, TO ADD OR MULTIPLY. IT IS USED IN THE STUDY OF BACKWARD CHILDREN AS WELL AS IN OTHER RESEARCH WORK. ADVANCED STUDENTS OF EXPERIMENTAL PSYCHOLOGY ARE REQUIRED TO BECOME FAMILIAR WITH THE OPERATION OF THIS SET OF INSTRUMENTS.



XXXV. THE STUDENT PERIMETER.



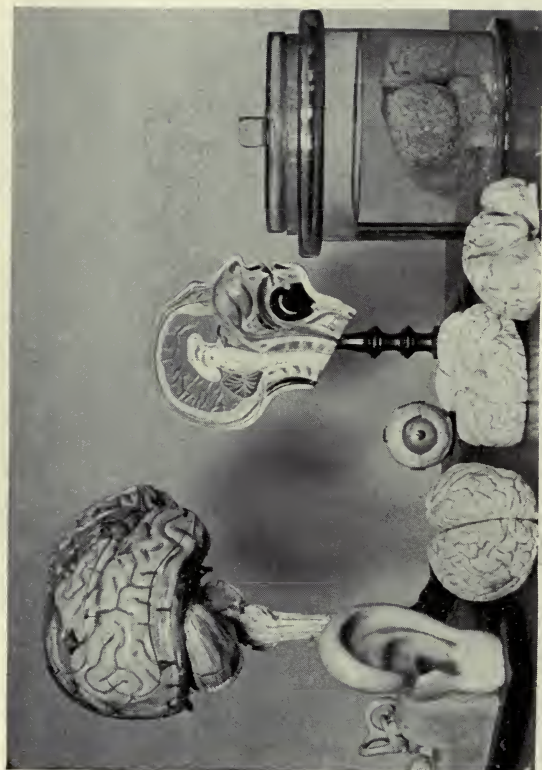
XXXVI. QUINCKE TUBES AFTER TWIMMYER.



XXXVII. MUSCLE AND NERVE.

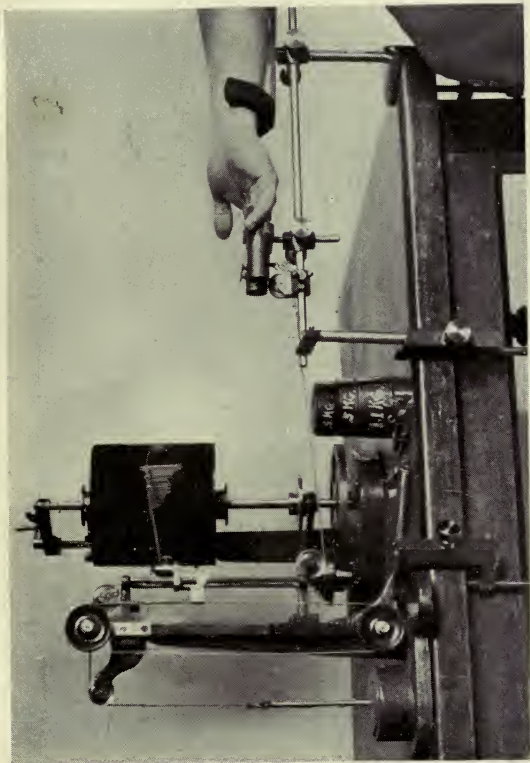
GROUPS OF THREE STUDENTS EACH ARE FURNISHED WITH A POWER-DRIVEN KYMOGRAPH, MOIST CHAMBER, STATIF, INDUCTORIUM AND CONTACT KEY, ENABLING THE MEMBERS OF THE GROUP TO MAKE GRAPHIC RECORDS OF THE RESULTS OF STIMULATING MUSCLE AND NERVE, OF FATIGUE, ETC., USING FOR THE PURPOSE THE MUSCLE AND NERVE OF THE FROG.

APPARATUS USED IN THE LABORATORY WORK OF THE SYSTEMATIC COURSE.



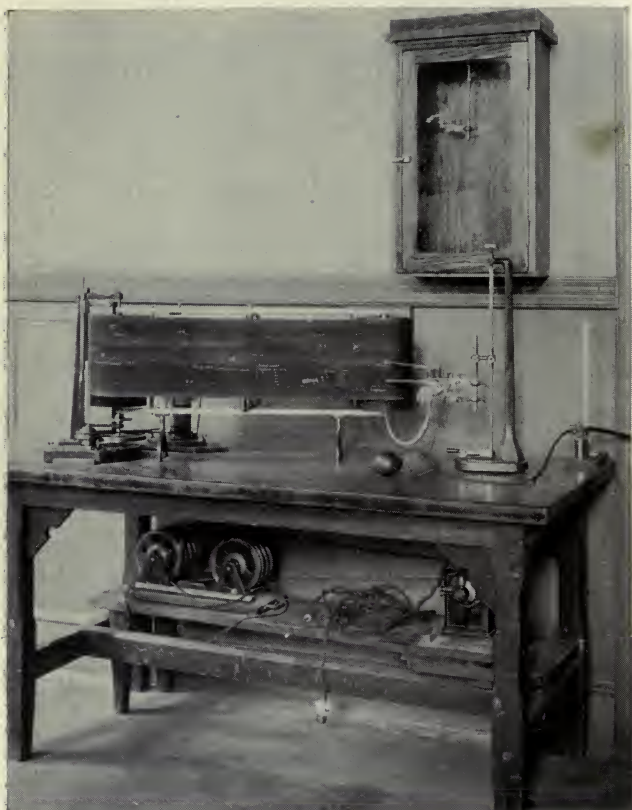
XXXVIII. BRAIN SPECIMENS AND MODELS.

EACH STUDENT IS PROVIDED WITH A SET OF BRAIN MODELS, MODELS OF THE EAR AND EYE, A HUMAN AND AN OX BRAIN FOR DISSECTION, AND A SERIES OF BLUE PRINTS SHOWING ELEVEN ASPECTS AND SECTIONS OF THE BRAIN. IN ADDITION, THE STUDENT HAS ACCESS TO A LARGE NUMBER OF DEMONSTRATION MODELS USED IN THE FIRST YEAR OF THE SYSTEMATIC COURSE.



XXXIX. SPRING OR WEIGHT ERGOGRAPH.

THE ERGOGRAPH WITH ARM-REST, FINGER CLAMP AND RECORDING KYMOGRAPH IS PROVIDED FOR GROUPS OF THREE STUDENTS EACH. WITH IT SELECTED MOVEMENTS ARE STUDIED WITH REFERENCE TO THEIR CHARACTER, RHYTHM, FORCE, PERIODS OF FATIGUE AND RECOVERY, AND THEIR RELATION TO VARIATIONS IN MENTAL STATES. STUDENT APPARATUS USED IN THE SECOND YEAR LABORATORY WORK, THE SYSTEMATIC COURSE.



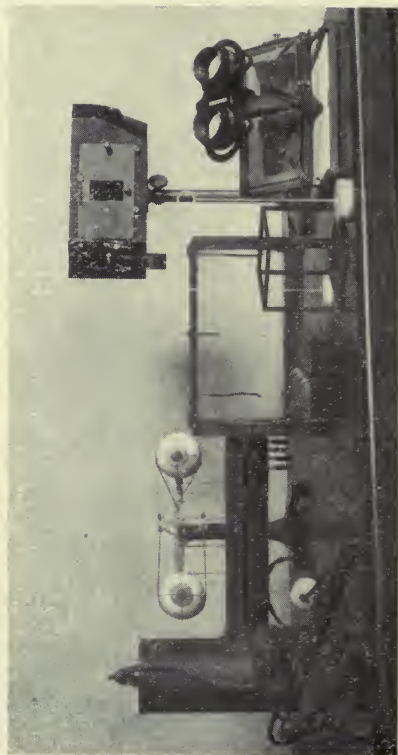
XL. THE RECORDING INSTRUMENT.

THE SUBJECT PLACES HIS HAND IN THE PLETHYSMOGRAPH; BY MEANS OF AIR ANOTHER ROOM TRACES A PULSE CURVE AND SHOWS CHANGES IN THE VOLUME THE 'EMOTIONS IN THE SECOND YEARS LABORATORY WORK OF THE SYSTEMATIC



XLI. THE PLETHYSMOGRAPH.

CONDUCTION THROUGH RUBBER TUBING, THE RECORDING INSTRUMENT IN OF BLOOD IN THE HAND AND FOREARM, STUDENT APPARATUS USED TO STUDY COURSE.



XIII. APPARATUS FOR THE STUDY OF VISUAL PERCEPTION.
EMPLOYED IN ADVANCED LABORATORY COURSE IN EXPERIMENTAL PSYCHOLOGY.

of education, but also with the physical and mental constitution of the children whom they are called upon to develop. They are not teachers in the ordinary sense: they are trainers, mental developers, and they must be quick to recognize the physical and mental nature of the organisms they would stimulate to higher activities. They must know not only the mental and physical defects of these children, but their mental and physical assets as well.

The backward child is already beginning to repay society and the schools for the lavish expenditure of time and effort upon his training. The demand grows more insistent for the recognition of the individual rights and needs of every child, and before long the viewpoint of clinical psychology from which we regard the training of the backward child will be the accepted viewpoint from which to regard the training of all children. This point of view, this recognition of the problem of education as being primarily the mental, moral and physical development of an individual, is one which many educators have doubtless expressed from time to time, but it has not as yet won general acceptance, and if one examines common practice quite a contrary standard of action will often be found. Thus a district superintendent of one of our large cities, on the recommendation of a principal, brought pressure to bear upon a grade teacher to cease visiting the homes

of parents and taking the children in her class on excursions to the park and elsewhere outside of school hours, the statement being that she was there to teach these children and not to cultivate extraneous social relations with them.

Ordinary children make sufficient progress even when treated in the undifferentiated mass in which they happen to be. The grade teacher perhaps may have a large measure of success without concerning herself about the mental and physical personality of her children. The day by day development of a backward child, however, is always a critical and momentous issue. The teacher must know each child as an individual. She must consult physicians in order that they may assist in her work through the medical treatment of the physical causes of retardation. She must either visit the homes of her children or she must have a social visitor who will make such visits and report to her. The employment of discipline, to take only one example, must meet the individual's needs. Whether severe or lax discipline is called for will depend upon the kind of treatment to which the child is subjected at home. If the claim is made by teachers of special classes that they have not the time to visit in the homes, this simply means that they have not the time to do their work properly. The teacher, however, is not a social visitor primarily. She

is primarily a psychologist working in a practical field, applying psychological principles day by day to the mental development of each child. Clinical psychology combines information gathered from many different scientific sources, and applies this information to the understanding and treatment of each child's individual needs.

Like all new problems, the problem of the exceptional child finds those who are called upon to solve it insufficiently trained for the purpose. Hundreds of earnest teachers are now seeking to obtain the proper equipment and are finding those to whom they turn for professional training as ill equipped as themselves to give real enlightenment on the necessary psychological and educational problems. Text-books of psychology are wholly inadequate. They are usually at least ten years out of date at the time they are written, and they are apt to contain more matters of speculative interest than of practical value. The departments of psychology in most of our institutions of learning have been caught unprepared to meet the demand of teachers for a practical psychology.

Courses in psychology for those interested in exceptional children cannot be satisfactorily planned and operated without much preliminary experimentation and trial. A teacher of backward children can acquire

a sufficient knowledge concerning backward children only by coming in actual contact with them. A department of psychology cannot teach psychology to teachers of backward children without the experience of prolonged investigation with these children. The value of our summer class for backward children resides partly in the opportunity afforded teachers of backward children to observe these children in actual school room practice, and partly in the opportunity afforded the teaching faculty to investigate these children at first hand. The special class for backward children conducted by the Psychological Laboratory and Clinic is itself a psychological laboratory; a demonstration laboratory, inasmuch as types of backward children are presented to the observation of summer school students, and a research laboratory, in that the children of the class are continuously under scientific observation. A special class is therefore a necessity, both for the student and for the department of psychology. For many years our courses in psychology have been modified, changing somewhat in purpose, but very much in content so as to adapt them more nearly to give a practically useful psychology to teachers and other students of child welfare.

Our summer school courses in psychology have always had the purpose of putting before the teachers of the

country the best which our department had to offer in the way of professional equipment. From year to year new courses have been added. The special class of 1911 differed from other special classes conducted by the Department of Psychology in that instruction in methods of teaching was added to instruction in clinical psychology. With the assistance of Miss Farrell, the class was more than a demonstration and experimental laboratory. It was an actual public school class for backward children, conducted by Miss Farrell and her assistants as such classes are conducted under her supervision in the public schools of New York City and as such classes may be conducted elsewhere by competent teachers who receive sufficient encouragement and support from the school authorities. Students attending the summer school, therefore, had the unusual opportunity to observe a well-conducted public school class, and through discussions with Miss Farrell to gain an insight into the psychological principles which they saw in daily operation. In addition, the children in the class furnished material for definite instruction in psychology, and the class itself formed part of a progressive experiment which the department is conducting for the purpose of advancing our knowledge of an applied clinical psychology.

What a student will get from observing the work

of even the most expert teachers will depend very largely upon what the student brings to the task of observation. There is a body of very practical knowledge concerning the mental and physical constitution of the children which the teacher must not fail to possess. This body of knowledge is compressed into a course entitled *Clinical Psychology*, dealing with the types of children who are apt to be found in special classes in the public schools. The life of the child out of school is as important as the life of the child in the class room. The teacher who observes and knows about the school life of the child will know only a part of what will be of service in stimulating mental development. There is a body of knowledge dealing with the out-of-school life of the child, with the child's father and mother, the food that he eats, the room in which he sleeps, his play, his life on the street, which is no less important to the teacher than a knowledge of special methods of instruction. A course in social psychology, developed from practical social work in connection with a psychological clinic or in connection with a special class, is of prime necessity to the teacher for rounding out her information. I consider it of no small importance that teachers should have the opportunity to engage in home visiting or social work, and that they should be instructed on the many social aspects of the educational problem.

And here we are met by the fundamental problem of professional training. If the teacher is to get the greatest advantage from observing a well-taught group of backward children, or from the principles and facts of a clinical psychology, or from a course on the social aspects of school work, the teacher needs a thorough grounding in the principles of psychology. It must be a worth-while psychology covering the modern field of psychology not in the text-book fashion, but assisted by first-hand laboratory work on the part of the student. The prime object of a thorough-going course in psychology for teachers is to train them to become psychologists and not to fill their minds with technical verbiage. All this requires time, and I do not believe that this kind of foundation in psychology can be given in less than a two-year course. As the result of our experience at the University of Pennsylvania we have organized and give in connection with the summer school courses a two-year systematic course in psychology which we hope will ground the student in the essential facts and principles and at the same time teach him how to observe and think correctly about the mental processes of others. The systematic course occupies three hours weekly for two academic years or three hours daily for two summer sessions, one hour each week or day respectively being devoted to a lecture and two hours to laboratory work.*

Every student is compelled to face this dilemma of professional training,—either a long course in general psychology followed by courses in practical work, which is, after all, the burning interest, or else to attack the practical work first on an insufficient foundation. Two or three years, that is, attendance at the summer courses for two or three summers, would be necessary to obtain a well-rounded course of preparation in the kind of individual psychology required for teaching backward children. Teachers who can afford to give this amount of time must be

* Fifteen courses in psychology were offered at the summer school of 1911, each occupying at least one hour a day for the six weeks of the session.

Practical Courses.

1. Educational psychology.
2. Clinical psychology.
3. Abnormal psychology.
- 4a. Anatomy, physiology, hygiene, and physical education.
- 4b. Mental and physical defects; medical inspection of school children.
5. Social aspects of school work.
15. The special class—observation and discussion.

The Systematic Course.

6. General psychology—first year.
7. Genetic psychology—second year.
8. Laboratory course A—first year.
9. Laboratory course B—second year.

Advanced Courses.

10. Experimental psychology.
11. Child psychology.
12. Social research in clinical psychology.
13. Tests and measurements of children.

For a detailed description of these courses see "Courses in Psychology at the Summer School of the University of Pennsylvania," *THE PSYCHOLOGICAL CLINIC*, Vol. IV, No. 9, February 15, 1911, pp. 245-273.

advised that this is the most satisfactory procedure. Teachers who feel that they have the ability to go far in this work should be urged to make every sacrifice to get the complete course. But our work has been and I believe ought to be so arranged that students even without this grounding in psychology can directly apply themselves to the practical problems with immediate profit to themselves and ultimately to their pupils.

There is every reason to give serious consideration to the professional training of teachers in psychology. At the summer school of 1910 the aggregate enrollment in all courses offered by the Department of Psychology numbered 84. At the summer school of 1911 this number had increased to 221. Many of these students were teachers who were sent to us and whose expenses were paid by their local school boards. All of them were earnest students, who were devoting their entire time during the summer school to the courses in psychology. Quite a large number who had come intending to get what they could from a single year's work in the practical courses in psychology, acting upon our advice entered upon the introductory and systematic course for the purpose of acquiring a solid foundation in psychological principles before taking up their application to school room practice with backward children. Not all of them could afford to post-

pone the work in which they were more directly interested, and so they made their selection from the practical courses in educational psychology, clinical psychology, abnormal psychology, social aspects of school work, and the observation of the special class. Other students came to the courses with a different angle of interest,—school principals and even superintendents seeking the latest information in clinical psychology, as well as grade teachers, school nurses, social workers, a few physicians and members of the ministry, some interested in the abnormal psychology, others in the social psychology, and still others asking only such a brief survey of modern psychology as was given in the course entitled educational psychology.

A worth-while psychology for teachers of backward children will be a worth-while psychology for all who are interested in the welfare of children. The ungraded or special classes for backward children are only the beginning of a modern educational movement, the beginning indeed of a social progress movement. Already attention is being directed toward the exceptionally gifted child and toward other types of exceptional children, those who enter late, foreign children, children requiring special vocational training, etc. The backward child will show us the educational way for all children. Whatever we may think

of the value of Montessori's work, her experiment has awakened widespread interest, and there is great significance in the fact that she began this work with feeble-minded children and then added to her practical experience a thorough grounding in psychology. She is now able to apply to normal children the method she worked out psychologically on backward children. Teachers of exceptional children, those at least who are familiar with the psychological principles of individual training, will without doubt inspire the most brilliant educational advances of the near future. School progress will be discovered to be the best and surest kind of social progress. The individualization of the pupil going hand in hand with the socialization of the schools will make education at once the greatest single force leading to social betterment and the medium in which diverse social forces will best play their allotted parts. To fit our children for the next world,—the better world which *they* will make to replace this present world of *our* making: this surely is to find the gateway to race progress.

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